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THE PROBLEMS OF ALLOCATING THE COST OF COAST GUARD CAPITAL OUTLAYS IN THE PLANNING-PROGRAMMING-BUDGETING SYSTEM

By

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Bachelor of Science

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A Thesis Submitted to the School of Government and
Business Administration of The George Washington
University in Partial Fulfillment of the
Requirements for the Degree of
Master of Business Administration

June 2, 1968

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CHAPTER I

INTRODUCTION

The United States Coast Guard adopted the Planning-Programming-Budgeting System as the process for justification of its fiscal year 1968 budget request. The adopted system did not allocate the cost of capital outlays to the programs and program elements that would benefit from the investment in facilities. Full implementation of the Planning-Programming-Budgeting System calls for such allocation. The problems and difficulties that will arise in allocating the costs of capital outlays need consideration. If the problems can be overcome without an expense greater than the value of eliminating them, the Coast Guard should endeavor to allocate the cost of capital outlays. The results of solving the problems and fully implementing the Planning-Programming-Budgeting System are also worthy of consideration. It is possible that the changes that would be caused by the application of the solutions will be found undesirable. If the final outcome of allocating capital outlay costs appears detrimental, the adoption of only some parts, or modification of the concepts, of capital outlay cost allocation may be more beneficial.

The Planning-Programming-Budgeting System has been used by the Department of Defense since 1961, and President Lyndon B. Johnson, on August 25, 1965, asked that it be implemented

throughout the Executive Branch of the Federal government.[1] Guidance and instructions for the establishment of the Planning-Programming-Budgeting System were published by the Bureau of the Budget in Bulletin No. 66-3.[2] Two segments of Bulletin No. 66-3 are of particular concern to this study. Both segments substantiate the statement that the Planning-Programming-Budgeting System requires the allocation of the costs of capital outlays to the programs that would benefit from the capital outlays.

Bulletin No. 66-3 stated in part that " . . . all costs--including capital outlay, research and development, grants and subsidies, and current costs of operations (including maintenance)--which are associated with a program element should be assigned to that program element."[3] Program elements are considered parts of programs and therefore allocation to programs appears to be a prerequisite of allocation to program elements. The second segment which indicates that capital outlay costs were to be assigned to programs was set forth in Exhibit 2 of Bulletin No. 66-3.[4] Exhibit 2 listed a proposed

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[1] U.S., President, "Statement by the President to Members of the Cabinet and Heads of Agencies, August 25, 1965." Weekly Compilation of Presidential Documents, August 30, 1965.

[2] U.S., Executive Office of the President, October 12, 1965, p. 6. (Bulletin No. 66-3 was superseded by Bulletin No. 68-2 on July 18, 1967. However, the concept of allocating capital outlay costs to programs was continued).

[3] Ibid.

[4] Ibid., Exhibit 2.

program structure for the Coast Guard as an example to guide Federal agencies in the development of suitable program structures. The seven titles for programs proposed for the Coast Guard were "Search and Rescue, Aids to Navigation, Law Enforcement, Military Readiness, Merchant Marine Safety, Oceanography and Other Operations, and Supporting Services."[1] It can be seen that no mention was made of capital outlays as a part of the program structure.

The Coast Guard adopted the proposed structure for the 1968 budget justification process with one substantial change. An eighth program, Capital Outlays, was added. The addition of the Capital Outlays is therefore in conflict with the instructions issued in Bureau of the Budget Bulletin No. 66-3. The following paragraphs will identify the program titles actually adopted and the activities encompassed by the Coast Guard's definition of each program title.[2] Changes in the wording of program titles were made but the close similarities to the proposed structure is apparent.

Search and Rescue

This program was concerned with locating and giving assistance to persons and property in immediate or potential

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[1] *Ibid.*, Exhibit 2.

[2] U.S. Treasury Department, Recommended Program for Assistance to Maritime Commerce, FY 1968-FY 1972 and Recommended Program for Military Support for National Defense Purposes, FY 1968-1972. (Both documents are undated, available from Coast Guard files and are referred to as 1968 Program Memoranda).

distress within the maritime search and rescue region of the United States. It required the major allocation of Coast Guard resources. Assistance was rendered by virtually any Coast Guard facility available regardless of the stated primary purpose of that facility.

Aids to Navigation

This program was to enhance the safety of maritime commerce on coastal and inland waters and the high seas. It also provided long range, precise navigational information on a global basis to meet the needs of the Department of Defense. The facilities established, maintained and operated to accomplish the purposes of the Aids to Navigation program included lighthouses, Loran stations, lightships, and vessels to provide logistical support and to serve as platforms for radio and radar aids to navigation. Aircraft were used for logistical support and determination of the accuracy of some aids to navigation. Unattended systems, lights and other markers as well as buoys, were also used.

Oceanography, Meteorology, and Polar Operations

This program's purpose was to gather oceanographic and meteorological data regarding the North Atlantic, North Pacific, Arctic and Antarctic Circumpolar Oceans in support of Coast Guard and interagency programs. Secondly, this program was to enhance the safety of commerce through iceberg-infested waters of the North Atlantic and insure safe passage of vessels

to U.S. bases in the Arctic and Antarctic. Facilities used by this program included icebreakers and other major vessels, aircraft, and support facilities ashore.

Merchant Marine Safety

This program was to enhance the safety of property and lives on vessels subject to the shipping laws of the United States by establishing safety standards for the construction, manning, and operation of those vessels. Safety standards were enforced by inspection, testing, examination, and licensing of vessels and personnel and the investigation of accidents. The use of Coast Guard facilities in pursuit of this program was limited to office space ashore.

Support Facilities and Services

This program provided for the command and control of the Coast Guard and the training of personnel, and support with funds, supplies, contracts, repairs, and construction of all operational facilities and requirements. Facilities used by this program included Headquarters and District staff office spaces, repair and supply facilities, a shipyard, training centers, the Coast Guard Academy, and some vessels such as the cadet training ship EAGLE.

Enforcement of Marine Laws and Regulations

This program was concerned with a broad spectrum of law enforcement duties. Included were the activities of port security which endeavored to provide security from deliberate

or accidental damage to port facilities and vessels in port, and the regulation of recreational motor boats to reduce losses from boating accidents.

Also included were activities to protect natural resources and national interests on the seas and waters subject to the jurisdiction of the United States. This segment of the program dealt with laws regarding water pollution, conservation laws, and international treaties concerning fish and other water animals.

Cooperation with other government agencies in various law-enforcement activities was also included in this program.

Virtually all Coast Guard facilities functioned within one or more segments of this program.

Military Training and Operations

The purpose of the program was to insure the Coast Guard's readiness to operate, and to operate as a specialized force of the Navy in time of war or national emergency. Again, virtually all facilities functioned within this program. Activities included training exercises similar to those required for Navy vessels, wartime search and rescue exercises, small arms marksmanship training, and participation in the Viet Nam war by vessels and aids to navigation facilities.

Capital Outlays

The purpose of this program was to provide the facilities necessary to carry out the other programs. It is the

capital outlay costs for facilities which, under the Planning-Programming-Budgeting System as defined by Bureau of the Budget, should have been allocated to the other programs.

With the foregoing discussion of the Coast Guard's program structure as a basis, this study will examine as the central research question the problems associated with the allocation of Coast Guard capital outlay costs to programs. Further allocation of capital outlay costs to program elements would encounter many of the same problems on a narrower scale; therefore this study will not examine directly the problems of allocation to program elements.

The study will review the historical development and examine the existing organizational structure of the Coast Guard to give some insight into the character and concepts of operation and administration that bear upon the problems. The study will also review the objectives, plans and budgeting process which were used for the fiscal year 1968 by the Coast Guard. Some of the problems revealed in the literature about the Planning-Programming-Budgeting System will be cited and the impact of those problems as they apply to the allocation of capital outlay costs to Coast Guard programs will be discussed.

The problems of allocating capital outlay costs to programs are of importance partly because the requirements for capital outlays to modernize and augment existing Coast Guard facilities are large and growing. The fiscal year 1960 Coast Guard appropriation, Acquisition Construction and Improvement,

for capital outlays was $20 million. For fiscal year 1968 the Coast Guard requested an appropriation of $103.2 million and forecasted an annual requirement for $197.5 million in future years to carry out existing plans.[1]

The plans had received Treasury Department approval and had been developed at the direction of the Treasury and Post Office Subcommittee of the House of Representatives Committee on Appropriations.[2]

The rapid increase in the amounts necessary for capital outlays was caused, in part, by the Coast Guard's long standing tradition to practice thrift, "to patch and repatch, to caulk and recaulk, to produce the empty paint pail before a new one could be issued."[3]

The planned capital outlays included the acquisition of the following as shown in Table 1.

Coast Guard facilities were composed of a wide variety of structures, vessels and aircraft located primarily in the United States but also found at many locations around the globe.

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[1] Interview with Lieutenant Commander Ira E. Thompson, USCG, Program Analysis Division, USCG Headquarters, January 15, 1968.

[2] U.S., Congress, House, Subcommittee of the Committee on Appropriations, Hearings, Department of Transportation Appropriations for 1968, 90th Cong., 1st Sess., 1967, p. 358.

[3] Howard V. L. Bloomfield, The Compact History of the United States Coast Guard (New York: Hawthorn Books, Inc., 1966), p. 8.

TABLE 1[a]

SUMMARY OF PLANNED COAST GUARD CAPITAL OUTLAYS
FOR PERIOD BEGINNING 1 JULY 1967

Type of Unit	To Be Added	Total When Plan Accomplished
Multipurpose shore units	88	255
Aids to navigation units	14	240
Command and control units	0	34
Repair and supply units	5	52
Training and recruiting units	1	72
Merchant marine safety units	2	53
Major cutters (210 feet and over)	39	72
Other cutters (65 to 210 feet)	123	278
Air craft	50	184
Aviation Units	2	24

[a] U.S., Treasury Department, Coast Guard, Cutter Plan, United States Coast Guard, FY 1968 thru 1974 and Summarized Shore Units Plan, United States Coast Guard FY 1968-1975 and Aviation Issue Paper, September 1967, United States Coast Guard.

The central research question is significant from two viewpoints. For the Coast Guard, significance lies in the recognition of the problems of capital outlay cost allocation as not being unique to it and in the need to consider those problems and some of the possible results of solving them. The second viewpoint is that of other agencies which are required to use the Planning-Programming-Budgeting System. Since the problems are not unique to the Coast Guard, other agencies may encounter them in varying degrees of difficulty.

Recognition or identification of a problem is often the first step in problem solving. This study will attempt to develop some clarification of the problems of allocating costs of Coast Guard capital outlays to programs. The problems are not necessarily new, but the approach may be different and useful.

CHAPTER II

DEVELOPMENT OF THE COAST GUARD

In the introduction the activities of the Coast Guard were shown in their relationship to the fiscal year 1968 program structure. This chapter will examine the historical development of the Service and give the reader a better understanding of what the Coast Guard is and does. An understanding of the development of the Coast Guard may make more apparent the difficulties, and their degree, that will be encountered in allocating the costs of capital outlays to programs. It will be seen that the development has been, in some instances, lacking in the rationality often associated with the Planning-Programming-Budgeting System.

Early Development

The United States Coast Guard traces its history back to August 4, 1790. On that date the Revenue Cutter Service was established by Act of Congress. The Congress had passed Shipping Tariffs to raise the funds necessary to carry out the activities of the Federal Government and to pay off the national debt that had been incurred incident to the creation of the new nation.

Alexander Hamilton, as Secretary of the Treasury, was

faced with the problem of collecting the shipping tariffs. It was a difficult problem not solved by the establishment of customs offices ashore. The populace had just undergone a war stimulated by abhorrence of tariffs and other taxes. The experience gained in patriotic wartime smuggling could not easily be laid aside. The long shoreline with many isolated landing points made the risks of smuggling small.

The Revenue Cutter Service, as a part of the Treasury, was established to assist in the enforcement of custom laws. Hamilton was authorized to construct and equip ten cutters at a total cost of not more than $10,000. The $10,000 was to be paid out of custom revenues.

The cost of the cutters exceeded the $10,000. It can be seen that budget overruns are not peculiar to our time. The captains, because of tradition and their personal influence, were able to cause improvements to be made during construction of their ships. The MASSACHUSETTS' cost exceeded $2,000 in its own right.

The ships were small. MASSACHUSETTS, the largest and best, was about 50 feet in length and displaced 70 tons. The cutters, though small and costly, soon paid for themselves and more. They forced vessels to report all cargoes to the Customs Office and pay the tariffs.[1] By 1794 ninety-two per cent of the federal income was coming through the collector of customs. By 1796 the foreign debt had been paid.

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[1] Bloomfield, op. cit., p. 11.

Hamilton felt the officers of the Revenue Cutter Service "should be commissioned as officers of the Navy" and so argued when urging the creation of the service.[1] Congress did not see things the same way, possibly because there was no Navy at that time. The officers of the Revenue Cutter Service therefore were deemed officers of the customs.

The inherent value of the armed ships as a navy was not overlooked by Congress. In an Act approved July 1, 1797, the President authorized the use of Revenue Cutter Service vessels to "defend the sea coast and repel hostitlity to vessels and commerce within their jurisdiction."[2]

The Navy Department was created May 1, 1798. On October 1, 1798, seven Revenue Cutter Service vessels were placed under control of the Secretary of the Navy. On March 2, 1799, the Congress authorized transfer of control of the entire Service to the Secretary of the Navy in time of War.[3]

The establishment of two precedents that have consistently affected the Service were set. The first was that the Service would be transferred to the control of the Navy in time of war or national emergency. The second, and less obvious precedent was the assignment of additional

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[1] Quoted in U.S., Congress, House, Economy and Efficiency in the Government Service, Message of the President of the United States (Taft) Transmitting Reports of the Commission on Economy and Efficiency (Chairman: F. A. Cleveland) 62D Cong., 2d Sess., 1912, Doc. No. 670, p. 286. Hereinafter referred to as Cleveland Commission.

[2] Ibid.

[3] Stephen H. Evans, The United States Coast Guard 1790-1915 (Annapolis: The U.S. Naval Institute, 1959), p. 15.

responsibilities without an increase in facilities. The multifunctional nature of service facilities could be seen in the first decade of its existence. Functions were added because they could be performed economically with the existing facilities. Congress did not appear to consider important the Service's location in the government organizational hierarchy or the purpose of the Service. The development of the Service by adding functions will be traced throughout its history.

A third precedent, not unlike the second, was set by Hamilton. The tradition of economy and efficiency was instilled by the first Secretary of the Treasury in his direction to the Cutter Captains. Hamilton wrote: "I shall hope for the strictest economy . . . the establishment [of the Service] not being entirely agreeable even to members of Congress, it will require uncommon care it not be rendered more objectionable by any unnecessary expense."[1] He further directed that the Revenue Cutters gather information about the coasts, inlets, bays, and rivers in the interest of aiding navigation.

The Revenue Cutter Service, now the Coast Guard, has continued to augment the Navy at the direction of the President. The Service has participated in the following conflicts: Quasi-French War, War of 1812, Seminole War, Paraguyan Expedition, Civil War, War with Spain, World War I, World War

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[1] Quoted in Bloomfield, op. cit., p. 8.

II, Korean War, and the Viet Nam War. Participation by the Coast Guard in the Korean War consisted primarily of providing navigation aids for aircraft, Search and Rescue, and Port Security functions in U.S. ports. In all other conflicts, including the case of Viet Nam, the Service participated more directly.

In 1799 the Revenue Cutter Service was assigned the duty of enforcing quarantine law on vessels visiting the United States. It was not the Service alone that was assigned the task, but all custom officers and military officers of the U.S. were included in the operation. It was a logical assignment of duties since custom officers were already boarding vessels as they entered port.[1]

Beginning in 1800 the Revenue Cutter Service vessels were used to prevent the use of U.S. vessels, or the employment of U.S. citizens in the slave trade between one foreign country and another. In 1807 the suppression of slave trade duties were expanded to prevent the importation of Negro slaves into the United States.

In 1819 the President was authorized to employ any armed vessel of the U.S. in the suppression of piracy. Revenue Cutter Service as well as Navy vessels were used.

The declining oak reserves on public lands were in need of protection to insure an adequate supply of oak for the building of U.S. vessels. In connection with its customs

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[1] _Ibid._, p. 138.

duties, the Service, in 1822, was assigned the duty of protecting the public timber reserves.

In 1837 the duties of giving assistance to vessels in distress was laid upon the Revenue Cutter Service by executive order of the President. Prior to that time the Revenue Cutter Service had no more responsibility for giving aid to distressed vessels than any other vessel traversing the sea. The Executive order required Service vessels to cruise the coasts in season of severe weather and be prepared to render aid to mariners in distress.

In 1862 the Service, along with the other vessels of the United States, were charged with the enforcement of the laws against immigration of oriental "coolies" into the United States.

The development and history of Alaska is replete with the activities of the Revenue Cutter Service and in more recent years the Coast Guard. The Revenue Cutter LINCOLN was sent to Alaska upon ratification of the purchase treaty with Russia. The first agent of the U.S. government in Alaska was Lieutenant George W. Moore, USR-M.[1] Revenue Cutter Service vessels explored and charted the coastline of the new territory and reported of the vast amounts of fish and fur bearing animals in the sea and along the coast.

Activities in Alaska continued to grow in scope. By

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[1] The name Revenue-Marine had been assumed by the Service, but never officially sanctioned by Congress.

an Act, July 27, 1868, Congress designated the Secretary of the Treasury to enforce the law to protect seal fisheries and other hunting grounds in Alaska, and on the same date, a second duty, to prevent illegal traffic in firearms, ammunition and spirits in that territory. Once again the Service was given conservation duties and responsibility to prevent smuggling.

The humanitarian nature of some of the functions of the Service can be seen in two acts, the first the relief of starving whalers who were ice-bound in the Arctic; the second, the creation of the Life-Saving Service through the efforts of the head of the Revenue Cutter Service in the 1870's, Mr. S. I. Kimball.

The expedition to bring aid to the 273 men of the 8-vessel whaling fleet ice-bound off Point Barrow is one of the more unusual stories in the history of the Service. The whalers would die of starvation if food could not be sent to them before the ice break-up expected late in the summer of 1898. The Revenue Cutter BEAR sailed to the edge of the ice pack, some 1500 frozen miles from the stranded whalers. A rescue party of three debarked to make the mercy trip.

The logistical problem of transporting sufficient food to feed the 273 men until the ice break-up was solved in the following manner. As the party proceeded northward they bought reindeer from the eskimos and drove the reindeer before

them.[1] The trials and tribulations of the three men are a story beyond the scope of this paper. They were successful and reached the first of the stranded whaling fleet on March 26, 1898 with 382 reindeer; a number sufficient to feed the whalers until the end of the freeze-up in August.

Less dramatic, but more significant in terms of numbers of lives saved, was the establishment of the United States Life Saving Service in 1870. Prior to 1870 life saving assistance from shore depended upon volunteers. Congress had furnished funds for equipment and facilities to be used by the volunteers, but there was no central federal direction of their activities. The Cleveland Commission on Economy and Efficiency credited Sumner I. Kimball, head of the Revenue Cutter Service, with the creation and development of the Life Saving Service.[2] Kimball in turn gives credit to the Revenue Cutter Service in a report dated March 25, 1911,

> . . . the most available instrumentalities in beginning this work were the Revenue Marine [sic Cutter Service] officers under my direction and with their aid and the judicious expenditures of an appropriation of $200,000 . . ., I was able to bring about improved efficiency. . . .[3]

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[1] Reindeer had been transported to Alaska during the 1880's by Revenue Cutters in cooperation with the Federal agent for education, Dr. Sheldon Jackson; Dr. Jackson had feared that the Eskimos would die as their primary food sources, whales, walrus, and caribou, were killed off by white men.

[2] U.S., Congress, House, Economy and Efficiency in the Government Service, p. 86.

[3] Ibid.

Revenue Cutter Service officers continued to assist the development of the Life Saving Service in the capacities of superintendents of construction and inspectors. The Life Saving Service was not a part of the Revenue Cutter Service. Each operated as a separate, distinct service under the Secretary of the Treasury until 1915.

The service acquired additional duties in the law enforcement field: in 1885 to protect fisheries, in 1898 to supervise the anchorage, in 1896 to regulate and police regattas and marine parades, in 1902 to protect game in Alaska, in 1910 to enforce the laws pertaining to motor boats. The Service took upon itself the enforcement of navigation laws and other laws governing merchant vessels, the suppression of mutinies on merchant vessels and the protection of wrecked property.

In 1906 the Congress authorized the Secretary of the Treasury to construct a vessel for the removal of derelicts and other floating dangers to navigation and to operate that vessel as part of the Service.

Flexibility and ability to react to changing national interests has been a Coast Guard hallmark throughout its history. The sinking of the TITANIC in 1912 after collision with an iceberg and the resulting loss of 1,517 persons raised understandable waves of shock throughout the world. President Taft took action to locate icebergs and warn shipping. The U.S. Navy was directed to set up a patrol of the iceberg area, and two scout cruisers were assigned. The Navy, before the

beginning of the next season, reported "it did not have ships suitable for the patrol work."[1] The shipping industry appealed to Secretary of the Treasury William G. McAdoo,

> In view of the expressed inability of the Navy Department to perform such service this season, this association believes that the United States Revenue Cutter Service, to which our shipping interests are under great obligations for efficient aid at all times and for invaluable services rendered, is well equipped as regards ships and personnel to maintain such patrol.[2]

The Service did provide the patrol craft in 1913 and has continued the patrol under international agreement, except during years of war with Germany. No vessels have been sunk by icebergs in the patrol area since the inception of the patrol. One ship was sunk in 1943 while the patrol was suspended, and a second sunk in 1959 outside of the patrol area.

The Service had been growing in size as well as in duties. Alexander Hamilton's fleet of 10 wooden sailing sloops had been replaced many times over and in 1910 the fleet numbered 26 cruising cutters, 18 harbor vessels and launches, plus a school ship. The fleet was supported by a shore establishment of administrative offices, a school of instruction, warehouses, a depot, inspectors, and supervisors of anchorages. The Secretary of the Treasury reported the accomplishments of

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[1] Bloomfield, _op. cit._, p. 115.

[2] New York Maritime Exchange letter. As quoted in Bloomfield, _op. cit._, p. 114.

the Service during 1910 as follows.[1]

Lives saved (actually rescued) from drowning	25
Persons on board vessels assisted	1,801
Persons in distress taken on board and cared for	365
Vessels assisted	156
Vessels boarded and papers examined	18,799
Vessels seized or reported for violation of the law	647
Fines and penalties incurred by vessels reported	$160,569
Value of vessels assisted and their cargoes	$10,247,535
Derelicts and obstruction to navigation removed or destroyed	28

At a net expense of $2,563,000 the service had directly assisted vessels and cargoes valued at nearly five times its expenses. It had actually saved 25 lives from being drowned. Additionally it had enforced the various laws earlier cited and maintained itself in a state of military readiness through "Naval drills and target practice with rapid fire guns and small arms."[2] The Service was growing and was more than paying its own way by saving ships and cargoes.

In spite of the above record the Cleveland Commission recommended that the Revenue Cutter Service be abolished. The opening paragraph of the section of the Report of the Commission on Economy and Efficiency dealing with the Revenue Cutter Service read as follows:

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[1] U.S., Congress, House, Economy and Efficiency in the Government Service, p. 368.

[2] Ibid., p. 369.

> The Commission on Economy and Efficiency has the honor to submit the following report in reference to the Revenue-Cutter Service of the Department of the Treasury. Its recommendation in respect to this service is that it be abolished and that the duties now being performed by it be distributed among other existing organizations of the government.[1]

The Cleveland Commission had reviewed the Service's duties and functions. A basic premise of the Commission was that Federal agencies should be unifunctional. The Service, as the history has pointed out, was multifunctional in nature. The Commission determined that the Navy could more economically perform the Navy responsibilities, the custom officers could more economically perform the customs duties, the Lighthouse and Lifesaving Services could more economically perform their duties.

The responses from the Service and from the agencies that would be assuming the various functions performed by the Service were negative. Ellsworth P. Bertholf, Captain Commandant of the Revenue Cutter Service, pointed out that the Cleveland Commission recommendation " . . . would necessitate a far greater number of vessels in the several services . . . [and result in] confusion . . . lack of coordination . . . duplication of equipment and administration . . . inefficiency."[2] The Secretary of the Navy stated that the Navy could not assume the duties of offshore distress work or derelict destruction in the normal performance of its duties. "All duties which interfere with the training of the Navy's personnel for war

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[1] *Ibid.*, p. 269.

[2] *Ibid.*, p. 397.

are irregular and in a degree detrimental to the efficiency of the fleet."[1]

Public sympathy for a counter plan and the negative reactions of the agencies involved permitted the Revenue Cutter Service to survive the Cleveland Commission Report, and multifunctionalism continued to be a trait of the Service. Further, the Commission's report gave impetus to the consolidation of the Life Saving Service and Revenue Cutter Service. In rebuttal to the Commission's Report the Secretary of the Treasury alluded to the consolidation plan . . . "And everybody who has studied it in the Treasury Department within my time is convinced that the Revenue Cutter Service should have more connection with the Life Saving Service, rather than less . . ."[2]

A New Name and New Duties

On 23 January, 1915, the President signed into law "An Act to create the Coast Guard" which combined the Life Saving Service and the Revenue Cutter Service.

Subsequent to 1915 the Coast Guard's duties and responsibilities have continued to expand. The initial premise of the purpose of the Service--enforcement of revenue laws--has fallen into the background. The history has shown the concepts which have provided the framework for development. Those concepts are: the Coast Guard personnel and facilities are adaptable to many duties, the Coast Guard is a military

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[1] *Ibid.*, p. 381. [2] *Ibid.*, p. 282.

service performing marine safety and law enforcement duties during peace time and additional duties as a part of the Navy in time of war.

Subsequent to 1915 the Coast Guard continued to add functions by absorbing other Federal agencies and in response to new needs and changing technologies.

Prohibition began in January, 1920. The Coast Guard, as well as many other Federal agencies, was caught by surprise when great influx of illegal liquor traffic occurred. It was not until the summer of 1921 that action was taken to interdict the smuggling. Cutters were used to patrol along Rum Row[1] and to keep the liquor ships under surveillance. Although the Cutters were slow, they were able to capture many rum runner delivery boats. The Coast Guard was not flexible enough to combat the great surge of smuggling, both in liquor and later in narcotics, with its 1921 fleet and facilities. Consequently, some 257 cutters between 75 and 250 feet in length, and 100 thirty-six foot picket boats were built, and 25 Navy destroyers were added to the Coast Guard fleet to combat smuggling between 1924 and 1931.[2] Additionally, captured delivery boats were pressed into service.

The size of the Coast Guard was rapidly reduced in 1934 with the end of Prohibition in sight. The Navy destroyers

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[1] Rum Row consisted of foreign flag vessels lying off the coast in international waters and therefore beyond Coast Guard jurisdiction. Delivery boats would commute between Rum Row and the U.S. coast carrying the liquor.

[2] Walter C. Capron, The U.S. Coast Guard (New York: Franklin Watts, Inc., 1965), p. 104.

were decommissioned, temporary commissioned officers were released, and enlisted personnel discharged for the convenience of the government. Not lost was the experience of having had to prevent large scale smuggling. That experience was beneficial to the Coast Guard when called upon to provide interdiction patrols against saboteurs and submarines during World War II and now against arms smuggling in Viet Nam.

The logical next step to consolidation of the Life Saving Service and the Revenue Cutter Service was the amalgamation of the Lighthouse Service with the Coast Guard.

The Lighthouse Service had been under the jurisdiction of the Treasury Department from 1789 until 1903, when it was transferred to the Department of Commerce. The Lighthouse Service used especially designed vessels to provide logistic support for its many aids to navigation. Often the vessels would traverse the same track lines used by the Coast Guard patrol vessels. Thus the amalgamation, in 1939, permitted a consolidation of functions; i.e., logistic needs of the Lighthouse Service and patrol functions of the Coast Guard could be met simultaneously; or, more frequently, when the vessel was not engaged in search and rescue it was available for logistics.

The Coast Guard had been aided in the performance of its duty to provide aid to mariners by the Lighthouse Service personnel on numerous occasions. The most graphic example of assistance was the rescue of survivors of merchant ships sunk in the area of NANTUCKET Lightship during World War I. As

[illegible]

[illegible]

[illegible]

[illegible]

many as 115 shipwrecked men were taken on board at one time.[1]

The Coast Guard, in 1942, next consolidated with the Bureau of Marine Inspection and Navigation. The Bureau of Marine Inspection and Navigation performed the functions of inspecting vessels and equipment and that of licensing personnel.

During the course of World War II, the Coast Guard had participated in the development and establishment of electronic long range aids to navigation (LORAN) for the use of aircraft and vessels. The LORAN system required stations in many parts of the world to support military efforts. In 1948, the Coast Guard was authorized by Congress to continue and to expand the LORAN system in order to meet the needs of national defense and the needs of commerce.

In 1950, the Coast Guard was granted broad powers for safeguarding ports, harbors, vessels and waterfront facilities within the jurisdiction of the United States. This function, which is encompassed by the broad term Port Security, requires capital investments for shore stations, vehicles, and patrol craft.

In 1962 Congress directed the Coast Guard to participate in oceanographic research. Prior to the development of national interest in oceanography, per se, the Coast Guard had been involved in related duties of ice patrol and had gathered oceanographic data for other federal agencies. The

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[1] Ibid., p. 29.

early Coast Guard endeavors, with the exception of the International Ice Patrol, in oceanography were accomplished as a subsidiary duty. Data was gathered as time was available in connection with routine operations. Since 1962, oceanography is pursued as a primary duty with a growing investment in capital assets.

On 1 April 1967, the Coast Guard ceased to be an agency under the Treasury Department and was transferred to the new Department of Transportation. Coincident to the creation of the Department of Transportation, the Coast Guard was given functions that formerly had been assigned to the Bureau of Customs (Admeasurement and documentation of vessels, a port security function); functions from the Corps of Engineers (establishment of anchorages, enforcement of the Oil Pollution Act of 1961, regulation of navigation); and administration of the Great Lakes Pilotage Act of 1960.

The citations of history have implied but not given proper emphasis to the Coast Guard's characteristic nature of cooperation with other Federal agencies. Senator Kennedy's suggestion at the hearings regarding the Coast Guard's transfer to the Department of Transportation from the Treasury Department is indicative of that cooperation and Congressional recognition of its value. He asked, "Will the Coast Guard's flexibility in dealing with other Federal agencies, like Navy and Customs Bureau, be impaired by being transferred to a Department of Transportation?"[1]

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[1] U.S., Congress, Senate, Committee on Government

The cooperation with other agencies, Federal, state, local, and, occasionally, foreign agencies, is exemplified in the following summary. Although this cooperation is less obvious than that with customs and Navy activities, it is, in the aggregate, significant.

The Coast Guard provides air transportation for the Alcohol Tax Unit of the Internal Revenue Service in the search for stills producing illegal liquor. Coast Guard vehicles are loaned to the Post Office Department during the Christmas rush and Coast Guard units are used to carry the U.S. Mail to isolated locations where other means are not available. Transportation is furnished to United States Marshalls and other law enforcement officers in the pursuit of their duties. Transportation has also been furnished routinely for doctors and rescue parties to disaster scenes both in the United States and in foreign lands. Injured persons from disaster and accident scenes are furnished transportation and en-route medical attention.

An unusual use of Coast Guard facilities was the monitoring of the progress of a bank robber who had used a stolen plane to make his escape attempt. The bank robber's flight was tracked from Sitka to Ketchikan, Alaska, and he was apprehended shortly after landing. Personnel at Coast Guard units along his flight route had kept him under nearly

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Operations, Hearings on S3010 Establishment of a Department of Transportation, 89th Congress, 2d Session, 1966, p. 264.

continuous observation and radioed reports of his progress to the Alaska State Police.

The Coast Guard has participated in the re-entry and recovery operations of the Space Flight program and has also assisted in the training of astronauts for recovery from the water.

The existence of Coast Guard fire fighting equipment near some small towns has made unnecessary the purchase of such equipment by local governments or other federal agencies.

The Coast Guard cooperates, as do all Federal agencies, by participating in the Equal Employment Opportunity Program, the Job Corps program, and other Great Society programs. The activities of some Coast Guard personnel at overseas stations have been similar to the activities of Peace Corps personnel. They have taught school and otherwise helped to improve the welfare of the indigenous populations.

The emphasis of the Coast Guard activities has shifted to meet changes in national interest. The development of a capability to support marine science research (oceanography) and a heavy emphasis on the prevention of oil pollution after the TORREY CANYON incident that raised great public and Congressional concern are two examples.[1] Additional emphasis on the prevention of pollution of waterways and beaches in general

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[1] The oil pollution of beaches and destruction of wildlife resulting from the breaking up of the tanker TORREY CANYON off the coast of England in 1967 had spurred worldwide, as well as national, concern.

also shows response to the developing national interest.

The history of the Coast Guard has shown that it has developed from a single purpose service engaged in the enforcement of custom laws along the eastern coast of the United States into a multi-purpose agency with nearly global responsibilities. The development has been influenced by the Coast Guard's ability and willingness to accept additional duties to meet new and changing national interests. The development of the Coast Guard has produced a unique organization, military in posture yet humanitarian in purpose, primarily concerned with safety in time of peace, yet possessing the ability to go to war as an able part of the Navy. The development of the concept of multifunctional facilities has been traced back to the days of Alexander Hamilton.

CHAPTER II

ORGANIZATION STRUCTURE AND POLICIES

A better understanding of what the Coast Guard's responsibilities are and how they were acquired, gained from the preceding chapter, make possible a more meaningful discussion of the organizational structure of the Service. This chapter will examine the organizational structure that was used to manage the responsibilities and functions of the Coast Guard in fiscal year 1968. The problems and solutions to the problems of allocating capital outlay costs will be affected by the existing organization structure or by changes to that structure.

The basic concept of Coast Guard organization appears to have been to organize along functional lines. The major functional categories were listed in the Coast Guard Organization Manual.[1] The first listed function was Law Enforcement. Included within the function of law enforcement were those activities in support of laws not directly concerned with safety of life and property, such as criminal laws, customs laws and conservation laws.

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[1] U.S. Treasury Department, Coast Guard, 1962.

The second function listed was administration of laws and promulgation of regulations for the promotion of safety of life and property on the high seas and waters of the United States. Safety laws and regulations included manning and equipment requirements for vessels, safety requirements for port facilities, motor boat regulations, and approval requirements for vessel construction plans.

In Chapter I it was shown that the activities of these two functions were included in two programs, Merchant Marine Safety and Enforcement of Marine Laws and Regulations. However, the activities within the two programs were a mix of activities from the two functional categories.

A third functional category listed in the Coast Guard Organization Manual was the development, establishment and operation of aids to navigation, icebreaking and search and rescue facilities for the promotion of safety on and over the high seas and waters subject to the jurisdiction of the United States. The activities included within this functional category are reasonably apparent. The activities of development and establishment of facilities were assigned to the Capital Outlays program. The activities necessary to operate these facilities were included in the Aids to Navigation, Search and Rescue, Oceanography, Meteorology and Polar Operations, and Support Facilities and Services programs.

The fourth major functional category listed was the maintenance of a state of readiness to operate as a specialized service in the Navy in time of war. The activities associated

with this function were included in the program, Military Training and Operations.

Although the Coast Guard had found it possible to align its activities in a program structure, the organization was along functional lines as shown in Figure 1, a chart of the Headquarters organizations structure. The functional pattern of organization can be seen in the titles of staff positions, Comptroller, Operations, Personnel, and Engineering. One staff office, Merchant Marine Safety, could logically be assigned directly to a program, Merchant Marine Safety, without substantial change to the organization structure.

The other staff officers could not have been as easily segregated along program lines, especially if the Capital Outlays program activities, along with the costs of capital outlays, were allocated to other programs. One example of the difficulty would have been encountered in an attempt to reorganize the functions of the Office of Engineering to a program structure. Engineering functions affect all programs and therefore it might have been necessary to assign small numbers of engineers to several programs. It would seem that problems of coordinating the efforts of engineers in the design and construction of a facility would have been increased by placing the engineers under the control of several program managers rather than under the control of one functional manager.

Figures 2 and 3 picture the Coast Guard hierarchy of organization and the geographic areas of responsibility for

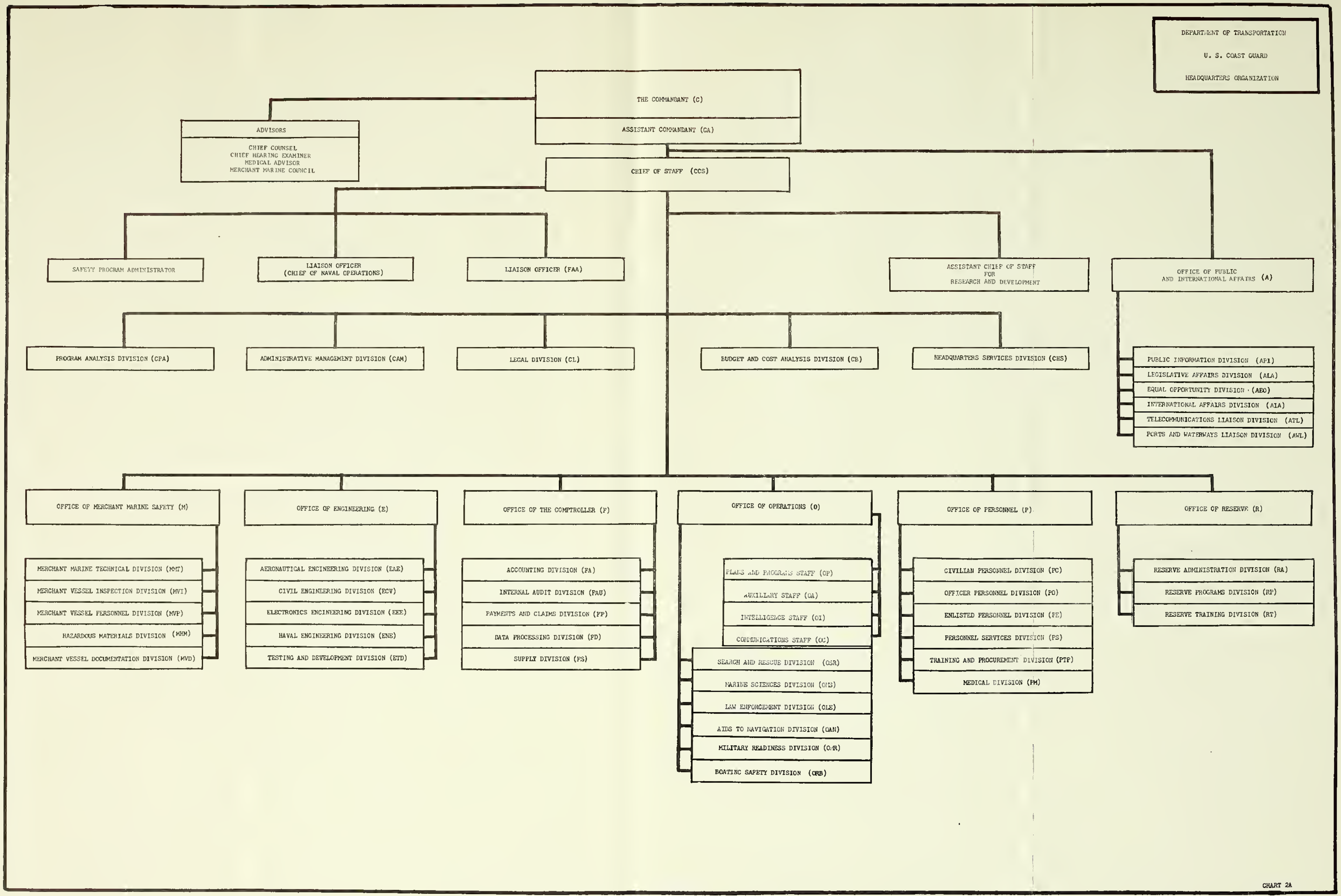

DEPARTMENT OF TRANSPORTATION
U. S. COAST GUARD
HEADQUARTERS ORGANIZATION
THE COMMANDANT (C)
ASSISTANT COMMANDANT (CA)
ADVISORS
CHIEF COUNSEL
CHIEF HEARING EXAMINER
MEDICAL ADVISOR
MERCHANT MARINE COUNCIL
CHIEF OF STAFF (CCS)
SAFETY PROGRAM ADMINISTRATOR
LIAISON OFFICER (CHIEF OF NAVAL OPERATIONS)
LIAISON OFFICER (FAA)
ASSISTANT CHIEF OF STAFF FOR RESEARCH AND DEVELOPMENT
OFFICE OF PUBLIC AND INTERNATIONAL AFFAIRS (A)
PROGRAM ANALYSIS DIVISION (CPA)
ADMINISTRATIVE MANAGEMENT DIVISION (CAM)
LEGAL DIVISION (CL)
BUDGET AND COST ANALYSIS DIVISION (CB)
HEADQUARTERS SERVICES DIVISION (CHS)
PUBLIC INFORMATION DIVISION (API)
LEGISLATIVE AFFAIRS DIVISION (ALA)
EQUAL OPPORTUNITY DIVISION (AEO)
INTERNATIONAL AFFAIRS DIVISION (AIA)
TELECOMMUNICATIONS LIAISON DIVISION (ATL)
PORTS AND WATERWAYS LIAISON DIVISION (AWL)
OFFICE OF MERCHANT MARINE SAFETY (M)
MERCHANT MARINE TECHNICAL DIVISION (MMT)
MERCHANT VESSEL INSPECTION DIVISION (MVI)
MERCHANT VESSEL PERSONNEL DIVISION (MVP)
HAZARDOUS MATERIALS DIVISION (MHM)
MERCHANT VESSEL DOCUMENTATION DIVISION (MVD)
OFFICE OF ENGINEERING (E)
AERONAUTICAL ENGINEERING DIVISION (EAE)
CIVIL ENGINEERING DIVISION (ECV)
ELECTRONICS ENGINEERING DIVISION (EEE)
NAVAL ENGINEERING DIVISION (ENE)
TESTING AND DEVELOPMENT DIVISION (ETD)
OFFICE OF THE COMPTROLLER (F)
ACCOUNTING DIVISION (FA)
INTERNAL AUDIT DIVISION (FAU)
PAYMENTS AND CLAIMS DIVISION (FP)
DATA PROCESSING DIVISION (FD)
SUPPLY DIVISION (FS)
OFFICE OF OPERATIONS (O)
PLANS AND PROGRAMS STAFF (OP)
AUXILIARY STAFF (OA)
INTELLIGENCE STAFF (OI)
COMMUNICATIONS STAFF (OC)
SEARCH AND RESCUE DIVISION (OSR)
MARINE SCIENCES DIVISION (OMS)
LAW ENFORCEMENT DIVISION (OLE)
AIDS TO NAVIGATION DIVISION (OAN)
MILITARY READINESS DIVISION (OMR)
BOATING SAFETY DIVISION (ORB)
OFFICE OF PERSONNEL (P)
CIVILIAN PERSONNEL DIVISION (PC)
OFFICER PERSONNEL DIVISION (PO)
ENLISTED PERSONNEL DIVISION (PE)
PERSONNEL SERVICES DIVISION (PS)
TRAINING AND PROCUREMENT DIVISION (PTP)
MEDICAL DIVISION (PM)
OFFICE OF RESERVE (R)
RESERVE ADMINISTRATION DIVISION (RA)
RESERVE PROGRAMS DIVISION (RP)
RESERVE TRAINING DIVISION (RT)
CHART 2A

Figure 1

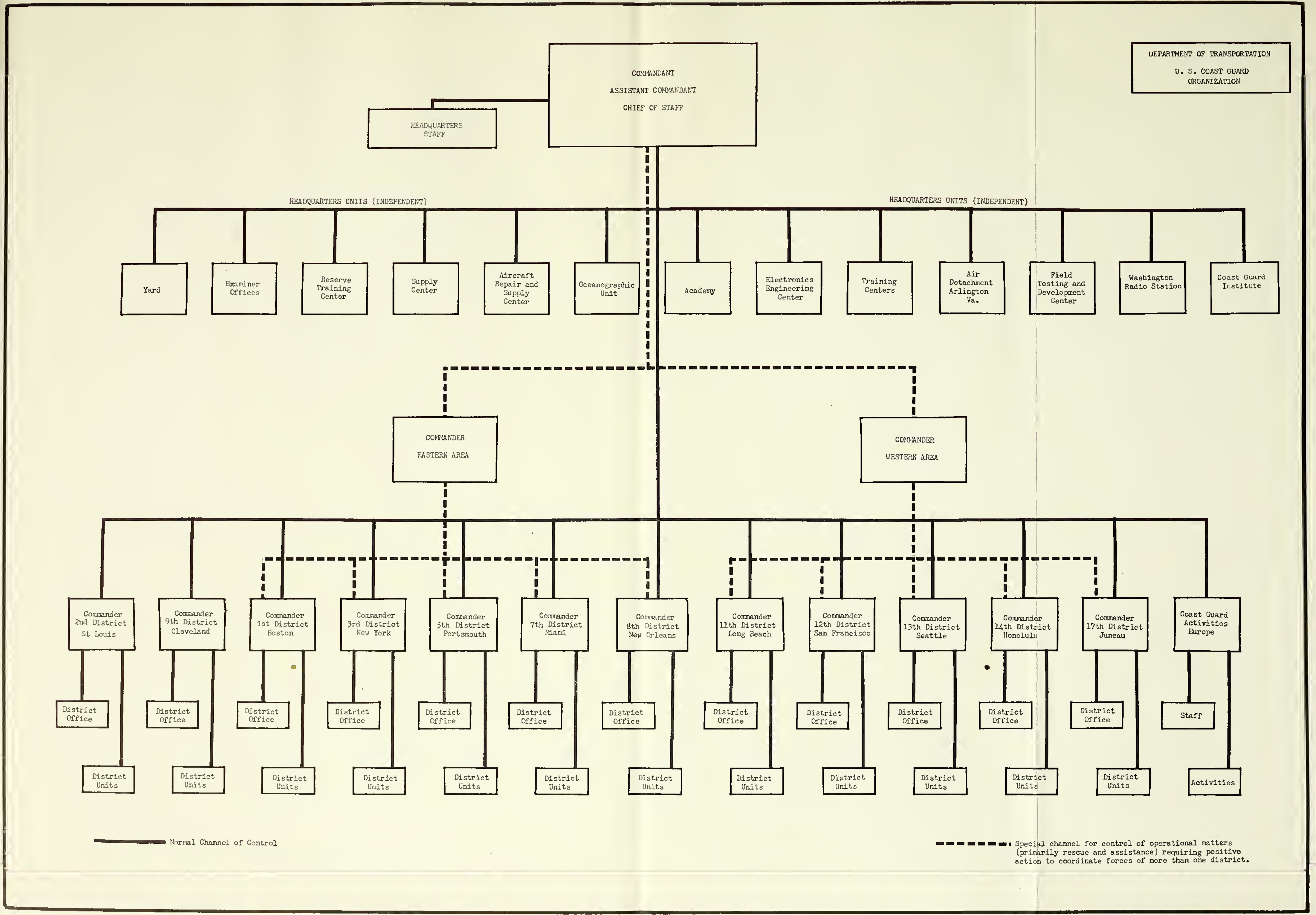
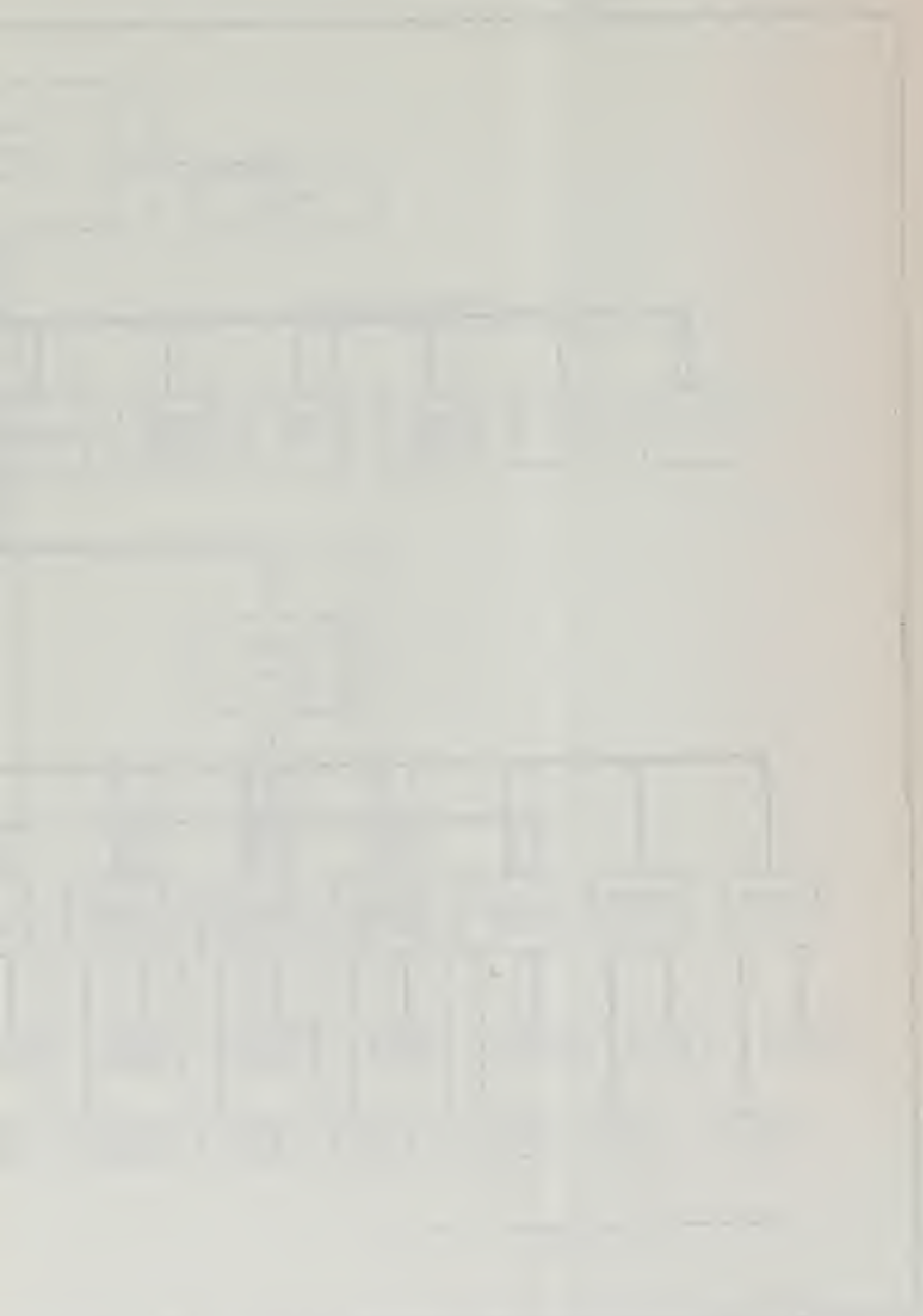

DEPARTMENT OF TRANSPORTATION
U. S. COAST GUARD ORGANIZATION
COMMANDANT
ASSISTANT COMMANDANT
CHIEF OF STAFF
HEADQUARTERS STAFF
HEADQUARTERS UNITS (INDEPENDENT)
HEADQUARTERS UNITS (INDEPENDENT)
Yard
Examiner Offices
Reserve Training Center
Supply Center
Aircraft Repair and Supply Center
Oceanographic Unit
Academy
Electronics Engineering Center
Training Centers
Air Detachment Arlington Va.
Field Testing and Development Center
Washington Radio Station
Coast Guard Institute
COMMANDER EASTERN AREA
COMMANDER WESTERN AREA
Commander 2nd District St Louis
Commander 9th District Cleveland
Commander 1st District Boston
Commander 3rd District New York
Commander 5th District Portsmouth
Commander 7th District Miami
Commander 8th District New Orleans
Commander 11th District Long Beach
Commander 12th District San Francisco
Commander 13th District Seattle
Commander 14th District Honolulu
Commander 17th District Juneau
Coast Guard Activities Europe
District Office
District Units
Staff
Activities
Normal Channel of Control
Special channel for control of operational matters (primarily rescue and assistance) requiring positive action to coordinate forces of more than one district.

CHART 1A

Figure 2.



US COAST GUARD DISTRICTS

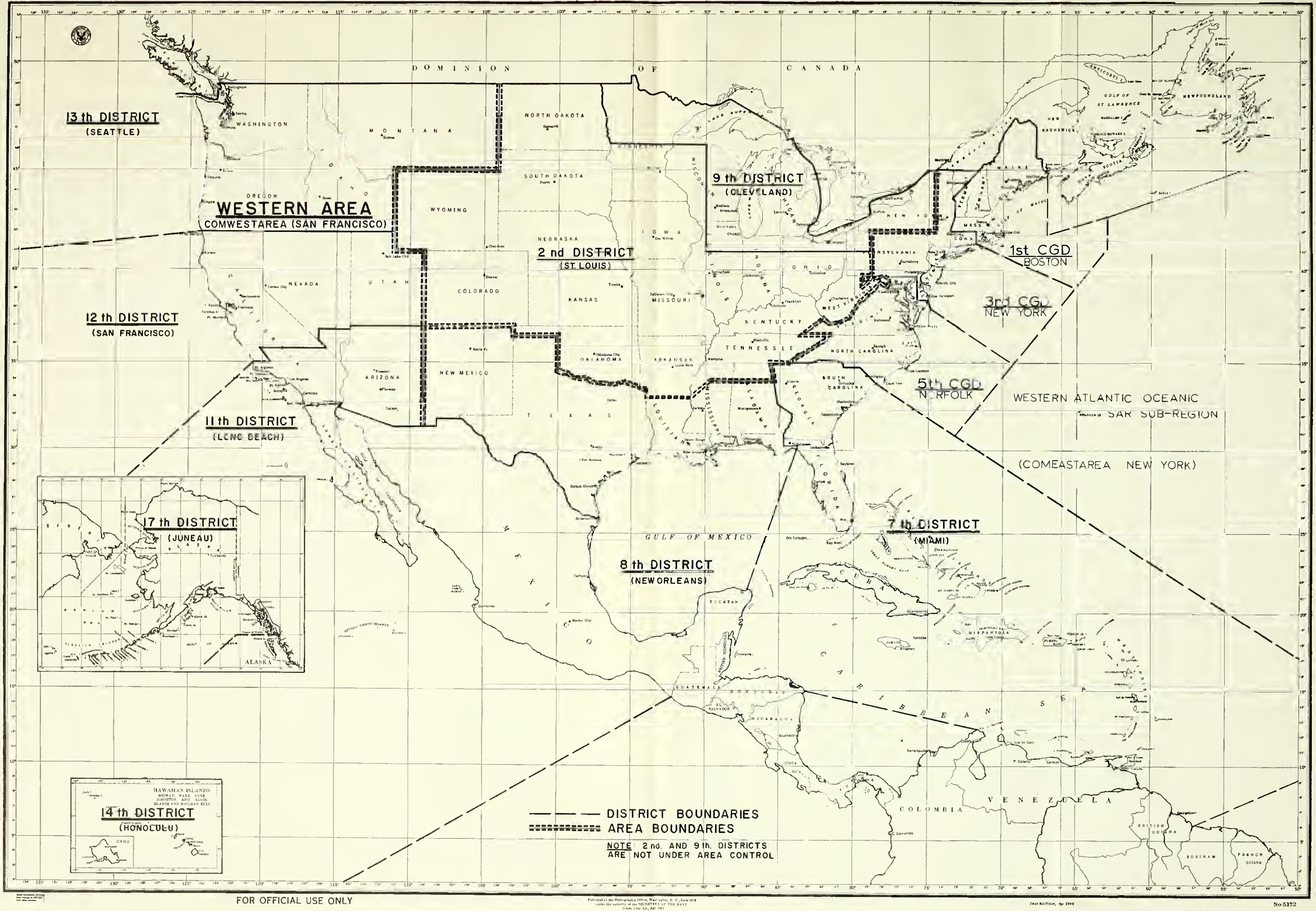

No.5172
DOMINION OF CANADA
13 th DISTRICT
(SEATTLE)
WESTERN AREA
COMWESTAREA (SAN FRANCISCO)
12 th DISTRICT
(SAN FRANCISCO)
11 th DISTRICT
(LONG BEACH)
17 th DISTRICT
(JUNEAU)
ALASKA
HAWAIIAN ISLANDS MIDWAY, WAKE, KURE, JOHNSTON AND SANDS ISLANDS AND KINGMAN REEF
14 th DISTRICT
(HONOLULU)
2 nd DISTRICT
(ST. LOUIS)
9 th DISTRICT
(CLEVELAND)
1st CGD
BOSTON
3rd CGD
NEW YORK
5th CGD
NORFOLK
WESTERN ATLANTIC OCEANIC SAR SUB-REGION
(COMEASTAREA NEW YORK)
7 th DISTRICT
(MIAMI)
8 th DISTRICT
(NEWORLEANS)
GULF OF MEXICO
MEXICO
CARIBBEAN SEA
DISTRICT BOUNDARIES
AREA BOUNDARIES
NOTE: 2nd. AND 9th. DISTRICTS ARE NOT UNDER AREA CONTROL
FOR OFFICIAL USE ONLY
No.5172

Figure 3.

Area and District Commanders. The Commandant, the senior Coast Guard officer, and the Area and District Commanders were line managers and supported by staff personnel in the execution of their functional responsibilities. The line-staff relationship was also found at smaller units as would be expected in a military organization.

The functions of the Coast Guard were managed on a regional basis by Area, District, Section or Group, and Unit Commanders. Each commander managed the Coast Guard functions in smaller geographic areas, i.e., the two Areas were divided into Districts and each District assigned certain functions directly to unit commanders or to unit commanders through an intermediate echelon of Section or Group Commander.

Below the District level, Commanders may have had responsibility for several functions within their geographic areas of responsibility. However, no commander subordinate to a District Commander had direct responsibility for all Coast Guard functions within his geographic area.

The two Area Commanders exercised little administrative control in the hierarchy. As can be seen in Figure 2, they entered the hierarchy for "control of operational matters (primarily rescue and assistance) requiring positive action to coordinate forces of more than one district." When a unit was operating under control of an Area Commander there was a positive change of control and direct control could not be exercised by a district commander.

The multifunctional nature of a unit, mentioned above,

is illustrated by the following example. The Coast Guard Base at Ketchikan, Alaska was primarily an industrial support facility to provide for the maintenance of buoys and other aids to navigation, the maintenance of small boats and patrol craft, electronic maintenance of Coast Guard equipment, and the construction and major repairs to Coast Guard facilities throughout Alaska. In addition to the industrial support activities, Base Ketchikan also participated to a significant degree in the other programs. Aids to Navigation program activities included the servicing of unmanned aids to navigation by inspection, and replacement of batteries and lamps. Within the scope of Enforcement of Marine Law and Regulations program Base Ketchikan personnel and facilities were used for motorboat inspection, port security inspections and in cooperation with local, state, and Federal law enforcement agencies. The Search and Rescue program activities of Base Ketchikan included the use of vessels and vehicles in the search for lost fishermen and hunters. Furthermore, the communications facilities of Base Ketchikan were used to coordinate Search and Rescue activities in the geographic area of responsibility of Commander, Base Ketchikan..

Activities in the Oceanography, Meteorology and Polar Operations program were limited to the recording and transmittal of weather and tidal information. Participation in the Military Training and Operations program was also limited, but included small arms and other military training activities. It can be seen from the foregoing that the facilities of Base

Ketchikan were utilized in 7 of the 8 Coast Guard programs. The difficulties in allocating costs of the facilities are apparent.

The Planning-Programming-Budgeting System tends to cause organizational changes, as has been seen in the Navy.[1] The decentralization of responsibilities to regional commanders and the line-staff relationships could have continued under an organization structure based upon Coast Guard programs. However, the functional basis of the organization structure would have required modification.

The functional organization of the Coast Guard has been used both for the operational control and for administration. As Smithies points out, " . . . the criteria for programming and those for effective organization do not

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[1] The Bureau System, established by Congress to administer the affairs of the Navy, had survived Presidential and Departmental attempts at reorganization. The Bureaus were co-equal, each with direct access to the Secretary of the Navy. The establishment, in 1915, of the Office of Naval Operations, did not change that relationship. Prior to PPB there were reorganizations within the Navy, but the basic tenet that the various materiel support Bureaus would maintain direct access to the Secretary was not broken. With the arrival of PPB and its implementations, the Bureaus, under the title of Systems Commands, were required to report to the Chief of Naval Materiel. The Chief of Naval Materiel, as well as the remaining Bureau of Personnel and Bureau of Medicine, report not to the Secretary of the Navy, but to the Chief of Naval Operations. Thus the multilinear system of control for operations and materiel support was replaced by a single unbroken line of control from the Secretary to the Chief of Naval Operations, to the Chief of Navy Materiel to the systems commands. Thomas W. Ray, "The Bureaus Go On Forever," United States Naval Institute Proceedings (Annapolis, Maryland, Jan. 1968).

coincide, and may diverge materially."[1] Since "accounting and budgeting classifications should be consistent with each other and synchronized with the organizational structure," the Coast Guard is faced with the problem of determining what the best organization format should be.[2] Determination of the best organization structure should include consideration of the needs for operational control as well as budgetary and administrative control.

Although the organization of the Coast Guard appeared to meet the needs of administration and control, there were some conflicts between the basic policies upon which the organization has been built. The conflicts are not unique to the Coast Guard, but their existence is worthy of comment. The Service strived for the benefits of decentralization, unity of command, assignment of authority commensurate with responsibility, and a reasonable span of control.[3] Running counter to these desires were the need to take the advantages of centralization in order to promote control of policy and standardization of procedures; the need to use the talents of

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[1] Arthur Smithies, "Conceptual Framework for the Program Budget," Program Budgeting, ed. David Novick (Washington: U.S. Government Printing Office, 1965), I, Part I, p. 27.

[2] Ellsworth H. Morse, Jr., "Accounting Principles and Standards for Federal Agencies," The Federal Accountant (Washington, D. C., Fall 1965), p. 24. Mr. Morse is the Director of Accounting and Auditing Policy Staff of the General Accounting Office.

[3] Coast Guard Organization Manual, p. x.

individuals and facilities of an individual unit by more than one superior; the loss of necessary authority without the retraction of responsibility when centralization did occur; and the ever-present problem of too lengthy chains of command when predicated upon reasonable span of control.

One of the consequences of these conflicts has been a tendency to decentralize the operations of the Coast Guard, but to centralize the planning activities. This tendency is particularly noticeable when comparing the Headquarters and Districts staff organizations. Under the Chief of Staff at Headquarters there was a planning, programming, and budgeting staff. No such staff was provided for a District Commander or his Chief of Staff.[1]

A second consequence was the wide span of control attributed to Chief of Staff. Figure 1 reveals that six Office Chiefs and nine staff components reported directly to the Chief of Staff. Thus the Chief of Staff was concerned not only with planning but also with the day to day coordination of the activities of the functional Office Chiefs.

It has been the purpose of this chapter to examine the Coast Guard's formal organization and some of the concepts and policies upon which the structure is based. The organization of the Coast Guard was outlined sufficiently to show that it is functionally organized, has decentralized operations and centralized planning and budgeting. The effect of the

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[1] Ibid., Chapter IV.

multifunctional nature of the Service upon the duties and responsibilities of one officer and resources he commands was outlined.

[illegible]

[illegible]

[illegible]

CHAPTER IV

EXISTING OBJECTIVES, PLANS, AND FACILITIES

The Planning-Programming-Budgeting System adopted by the Coast Guard for the fiscal 1968 Budget justification process was influenced by its then existing objectives, plans, organization structure and its historical development. A Study of the Roles and Missions of the U.S. Coast Guard[1] had resulted in the setting of Coast Guard objectives and affected the plans of the Coast Guard. The Roles and Missions study had been undertaken in 1961 because of the apparent need for large capital outlays by the Coast Guard. The objectives which were developed subsequent to the findings of the Roles and Missions study will be examined in this chapter. This chapter will also review the plans for, and the descriptions of the condition of Coast Guard facilities which were used to document the requirements for large capital outlays.

The Roles and Missions Study of 1962 is a logical starting point for a discussion of Coast Guard planning. The Roles and Missions Study was undertaken to define the Coast Guard's areas of responsibility, review existing activities and agreements to determine the appropriateness and legal

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[1] U.S., Treasury Department, 1962.

authority for continuing those activities and agreements.

> In the fall of 1961, Secretary of the Treasury, Douglas Dillon, directed that a study be made of the Coast Guard roles and missions in order to provide a sound basis for long-range planning and budgetary justification. Review of missions, clearer mission definition, and more precise delineation of policy and operational guidelines were among the objectives.

Thus reads the foreword by James A. Reed, Assistant Secretary of the Treasury, to A Roles and Missions Study of the Coast Guard.[1] This study had been precipitated by the realization that the Coast Guard's facilities were overaged and obsolete.

The Roles and Missions study examined the Coast Guard's history, statutory authority, agreements (national, international), delegations of authority, funding policy, arrangement and requirements. For purposes of the study the Coast Guard's activities were divided into nine segments:[2] Search and Rescue, Aids to Navigation, Merchant Marine Safety, Reserve Training, Ice Breaking, Oceanography, Military Readiness, Port Security, and Ocean Stations.

The Roles and Missions study has had far-reaching effects. An early, direct outgrowth of the study was development of United States Coast Guard Objectives.[3] The purpose of Coast Guard Objectives were stated in the foreword. "The objectives contained herein are a first step toward a long-range planning structure responsive to those requirements."[4]

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[1] Ibid.

[2] Ibid.

[3] U.S. Treasury Department, Coast Guard, United States Coast Guard Objectives (CG-378), 1964.

[4] Ibid., p. i. (These requirements meaning statutory missions, clear policy and operational guidelines).

The objectives were based on four basic assumptions. The first was the assumption that the broad base growth of the United States, with a corresponding increase in Coast Guard workload, would continue. The second assumption was that fiscal resources would permit modernization of existing Coast Guard facilities and provide sufficient funds to carry out the expanded work load and responsibilities. A third assumption was that the Cold War would continue on all levels short of unlimited war. The fourth and final basic assumption was that international cooperation among the free and uncommitted nations of the world would increase in importance.[1]

Within the constraints of national goals and the foregoing assumptions, Coast Guard objectives were established. A summary of the objectives follows for each mission area.

Aids to Navigation

> Safe passage in and over the high seas and waters subject to the jurisdiction through effective and reliable systems of aids to navigation.

This mission area encompasses long and short-range navigation systems for commerce as well as recreational boating, recognizes the needs of national defense and need for interface with other government agencies. Changes in user technology plus change in technology for providing better service are considered.

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[1] Ibid., pp. 6-7.

Cooperation with other Government Agencies

> Maximum utilization of the nation's resources demands cooperation between government agencies. The Coast Guard receives increasing requests for assistance from the growing number of agencies and yet must also carry out its assigned missions. The aggregate demand for service is greater than can be met with the resources available. The trade-offs necessary must be made by informed commanders and through Coast Guard participation in planning efforts at the national level.

Icebreaking

> Waterborn access to ice-bound locations in furtherance of national economic, scientific, defense and consumer needs.

This mission area envisions icebreaking vessels for both domestic and polar operations with capability of performing other duties when not engaged in icebreaking.

Law Enforcement

> Protection of lives, property, natural resources and national interests through enforcement of federal law upon the high seas and waters subject to the jurisdiction of the United States.

This mission is primarily concerned with those laws and regulations relating to the safety of passengers and cargo and is therefore based upon a concern for humanity. Also included is enforcement of conservation and criminal law in cooperation with other agencies.

Merchant Marine Safety

> Safety of Life and Property on the High Seas and internal waters through law enforcement and regulation of merchant vessels, their officers and crew.

This mission area is closely related to law enforcement in the area of boating safety, port security, and dangerous cargo. The laws and regulations generally have wider time spans than those under the Law Enforcement Mission area. The examination and licensing of officers and crew, manning requirements, vessel design and construction, and accident investigation are included. Self-regulation and encouragement of the development of a viable merchant vessel industry are required.

Military Readiness

> An effective ready force responsive to specific tasks in time of war or emergency in support of national security.

The Coast Guard must be capable of assuming those specific tasks assigned to it by the Navy based upon Coast Guard and Navy planning. It is expected that Coast Guard assignments will be in the more mundane provinces that complement the exotic weapons systems of the other military services.

Oceanography

> Knowledge of the sea, its boundaries, and its resources through collection and analysis of data in support of the national interest.

The Coast Guard must develop the capability within its facilities and personnel to provide platforms for cooperation with other agencies in furthering the national objectives in oceanography.

Ocean Stations

> Safe passage of air and maritime transoceanic traffic through areas of United States responsibility and

> such other areas as may be in the national interest.

> Scientific knowledge of the atmosphere, the sea, and their interfaces through data collection at temporary or permanently assigned ocean stations.

A particular mission area, Ocean Stations, is established because of the participation in the accomplishment of a wide range of other program objectives by the vessels which occupy ocean stations.

Port Security

> Safe, secure port areas and facilities and protection of the national interests in internal waters.

The Coast Guard must move to consolidate the government's (federal, state and local) regulation of and service to the public. The present dispersion of functions among the various federal agencies, state, and local governments, requires the expenditure of resources above the amounts that would be required through full cooperation. Further, the public must deal with a multitude of agencies in pursuit of business or recreational activities.

Reserve Training

> Trained augmentation forces for war or national emergency and such other times as the national security may require.

The development of a ready reserve to give the Coast Guard the capability to respond to war or national emergency conditions is necessary through the optimum use of reserve training and regular service resources.

Search and Rescue

> Timely assistance to persons and property distress on or over the high seas in waters subject to the jurisdiction of the United States and elsewhere whenever forces are available.

The other missions of the Coast Guard are preventive in nature whereas this mission is corrective. Search and Rescue facilities must be provided by the Coast Guard to meet the growing needs in this mission area. In unusual circumstances the resources of other agencies, and domestic and foreign vessels and air craft, must be used to provide the maximum assistance possible. The Coast Guard must encourage national and international planning and cooperation to provide assistance to those in peril.

The development of plans and programs to meet mission objectives are governed by the following policies set forth in Coast Guard Objectives. Advancing technology must be considered as it affects missions. Automation will directly and indirectly affect Coast Guard missions. The organization of the Coast Guard must adapt to the mission-oriented type staff organization, more vertical than horizontal. Current and comprehensive policy guidance must be available to permit increased decentralization of decision making. Career planning for military and civilian personnel must be included. Communications should be rapid, reliable, automated and based on the systems concept. The public should be informed about the Coast Guard and its activities through a strong continued effort. This is particularly necessary to provide large segments of

the public with safety information.

It can be seen that there is great interdependence and some overlapping of the mission areas. These interdependencies and the overlapping complicate the allocation of capital costs. The problem is accentuated when objectives of the eleven mission areas are aligned to fit within the eight programs selected for the Coast Guard Planning-Programming-Budgeting System. Coast Guard programs are compared in Table 2 to the mission areas in which Coast Guard objectives were set for planning.

TABLE 2

RELATIONSHIP OF PROGRAMS TO MISSIONS

Program	Related Mission(s)
Aids to Navigation	Aids to Navigation Icebreaking (Domestic)
Oceanography, Meteorology and Polar Operations	Oceanography Ocean Stations Cooperation with other government agencies[a] Icebreaking (polar)
Merchant Marine Safety	Merchant Marine Safety
Search and Rescue	Search and Rescue
Military Readiness and Operations	Military Readiness Reserve Training
Enforcement of Marine Law and Regulations	Law Enforcement Port Security
Capital Outlays	All
Support Facilities and Services	All

[a] For the purpose of continuity, the mission, Cooperation with other agencies, has been correlated with the

When the Planning-Programming-Budgeting System for justification of fiscal year 1968 Coast Guard budget was formulated, the existing Coast Guard plans were facility oriented. Budget preparation for capital outlays continued to be facility oriented. Allocation of the cost of facilities to programs does, by definition, require a change. Congress, the Bureau of the Budget, and the Treasury Department had participated in the development of the plans. The impact of a change to plans will destroy a portion of the existing commitment gained by prior approval and participation.[1]

The plans to carry out the Coast Guard objectives are expressed in three primary documents: _The Cutter Plan_, _The Summarized Shore Units Plan_, and _The Aviation Plan_.[2] Each of the plans existed before the publication of _Coast Guard Objectives_.[3] The plans were, however, shaped and modified to permit progress toward the objectives.

Cutter Plan

The Cutter Plan is based upon the _Report on the Requirements for Coast Guard Vessels_ approved by the Secretary

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Oceanography, Meteorology and Polar Operations Program, because that program is primarily in support of other agencies. Activities of cooperation with other agencies were also found in the other programs.

[1] The impact of the change will be less now that the Coast Guard has been transferred to the Dept. of Transportation, but it will still be meaningful.

[2] _Supra._, p. 8, footnote 2.

[3] _Coast Guard Objectives_, _op. cit_.

of the Treasury in December 1962.[1] Initially the plan encompassed the period fiscal year 1964 through fiscal year 1974 and envisioned the expenditure of $1,028,914,000 to modernize and augment the existing fleet of Coast Guard Cutters. The plan has been updated and republished annually to reflect changes in requirements.

Summarized Shore Units Plan

Initially this plan dealt with the replacement, augmentation, and modernization of operational Shore Units. It has since grown to encompass the expansion of support facilities, training facilities, aids to navigation (including buoys and structures), and family housing. It covers the time period FY 1966 through FY 1975 and is updated and republished annually.

Aviation Plan

The oldest of the current plans of the Coast Guard is the Aviation Plan. Based upon the Report on the Requirements of Coast Guard Aviation, dated 1 December, 1956, and revised in 1960 and 1966,[2] the plan is updated and republished annually under the title Aviation Issue Paper.[3]

The major revision approved on 13 April 1966 by the

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[1] U.S. Treasury Department, Coast Guard. (Available from Coast Guard files).

[2] U.S. Treasury Department, Coast Guard.

[3] Aviation Issue Paper, op. cit.

Secretary of the Treasury encompassed the period fiscal year 1967 through fiscal year 1973.[1]

Each of the plans had had major amendments because of external and unforeseen influences. The Cutter Plan had been radically changed due to the addition of five Navy icebreakers to the fleet and the transfer of 26 patrol boats to Viet Nam. The initial shore units plan did not envision a family housing program, the rapid growth of the service resulting from the Viet Nam war, nor the addition of five major vessels (Navy Icebreakers) and necessary support of those vessels.

The aviation plan had been influenced more by the changes in technology than had the other plans. The rapid advances in aviation technology and shorter life of aircraft, when compared to shore units and vessels, had necessitated larger and more frequent changes. Also influencing the aviation plan was a radical increase in cost of training of Coast Guard pilots by the Navy and the acquisition of Navy icebreakers which required helicopters and highly trained aviation personnel in pursuit of their missions.

Each of the plans had also been influenced, in dollar terms, by increasing costs and failure to receive necessary appropriations to carry out the plans in their early years. Based upon replacing capital facilities over the life of each

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[1] U.S. Treasury Department, Coast Guard, Joint Report of the Secretary of the Treasury and the Commandant, USCG on the Extension to the Reevaluation of the Requirements of Coast Guard Aviation, dated April 13, 1966, p. 2.

plan, yearly dollar averages were set for budgetary requests. Appropriations received were less than the yearly averages, causing the averages for later years of the plan to grow to unrealistic levels. Therefore the plans were extended in time and revised to lower annual dollar requirements. The changes to the facility plans that have occurred indicate that the plans have had to be flexible.

The condition of existing facilities is an important consideration. If there were no need for large changes in the existing facilities the problems created by cost allocation to programs could be ignored. But the Coast Guard is faced with a critical and immediate need to modernize and augment its existing facilities.

Cutters

The 1962 Report on the Requirements for Coast Guard Vessels described the condition of the existing fleet.[1] Some of the descriptions were:

> All three of the present high endurance vessels do not meet the previously stated requirement for maximum sustained speed of 25 knots. . .
>
> . . . .
>
> The WAVP--311' vessels are former Navy seaplane tenders and lack the built-in hull strength generally associated with Coast Guard cutters. . .
>
> . . . .

When speaking of the 20 overaged of 28 existing medium endurance vessels:

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[1] U.S., Treasury, Coast Guard, April 1963. (Reprint as amended June 1962. Retitled Vessel Plan in December 1963).

> In addition to lack of speed and endurance these vessels . . . lack sufficient reserve stability and compartmentation, lack adequate space for good habitability of personnel and required equipment and are not resistant to medium ice conditions.
>
> . . . .
>
> The 269' ice breakers built during the war years have had long and arduous duty operating not only in the continental United States and Alaskan waters, but also into the Arctic and Antarctic in support of naval operations. These vessels are showing definite signs of wearing out. . .
>
> . . . .
>
> (Inland tenders) . . . five other (other than 3 overage) miscellaneous are nearing obsolescence and are not capable of performing their assigned duties.
>
> (Lightships) . . . the ones (1904 and 1907) built soon after the turn of the century require immediate replacement.

The 1962 plan for replacing the vessels was "reviewed and modified in light of previous slippage and changing requirements in 1966."[1] The amended plan for the period 1965-74 was immediately behind schedule. Three of the 10 years had passed and only 15.6 per cent of the funds had been appropriated. The 1968 request for funds was less than 50% of the annual requirement.[2]

Shore Units

Ten percent of all existing shore units were over 85 years old, and thirty-two percent are 50 years old.[3] Because

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[1] U.S., Congress, House, Hearings, Department of Transportation Appropriation 1968, pp. 443-444.

[2] Ibid.

[3] U.S., Treasury Department, Coast Guard, Shore Unit Plan, 1962, p. II-2.

of operational necessity most of the fixed structures are located in positions exposed to the ravages of the elements. The erosion and other topographical changes along the shorelines have made structural changes, rebuilding or relocation of some structures necessary.

Technical changes in navigation, navigation equipment, and the automation of some aids to navigation structures require adaptation of structures to house different equipments and numbers of personnel. Changes in the patterns and types of marine vessels to be furnished service have made necessary more facilities, and in some instances, facilities in new locations.

Aviation

In fiscal year 1969 more than 50 percent of the fiscal year 1967 aircraft inventory of 160 aircraft will be overage, i.e., beyond their expected service life. The Medium Range Search aircraft (fixed wing amphibious) inventory will be 99 percent overage.[1]

Coast Guard aircraft and their uses have become more specialized. This has resulted in a need to contract separately for Coast Guard aircraft and lose savings formerly available when buying from production runs of other Federal Agencies (Armed Services). Too, the specialization has made it necessary for the Coast Guard to train its own aviators, thus losing the

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[1] U.S. Treasury Department, Coast Guard, Joint Report of the Secretary of the Treasury and the Commandant, April, 1966, p. A-1.

economies of scale formerly available by using Navy facilities.

Summary

The objectives and plans which were considered in the formulation of the Planning-Programming-Budgeting System adopted by the Coast Guard for the 1968 budget justification have been outlined in broad terms, and the assumptions and considerations used in setting the goals were listed in this chapter. Also listed were the three basic long-range facility plans for reaching the objectives. Along with the facility plans, the condition of the existing facilities, the need for modernization, and the scope of the plans were outlined.

CHAPTER V

PROGRAM-BUDGETING IN THE COAST GUARD

Background

The development of Coast Guard objectives as an early, direct outgrowth of the Roles and Missions study was discussed in the preceding chapter. A second development in the evolution of the Coast Guard's Planning-Programming-Budgeting System was a request by the Secretary of the Treasury that "the Coast Guard develop a program-oriented budget on a pilot study basis."[1] This request appeared to be based upon a recommendation of the Roles and Mission study. The speed of the Coast Guard's formulation of a Planning-Programming-Budgeting System subsequent to the publication of Bureau of the Budget Bulletin No. 66-3 would probably have been less, or the difficulties greater, if the objectives, plans and pilot study had not been in existence.

Before embarking upon a review of the programming budgeting process adopted by the Coast Guard, this chapter will examine the underlying concept of the Planning-Programming-Budgeting System, some of the tools of analysis used within

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[1] U.S. Treasury, Coast Guard, Chief of Staff, Memorandum to Chiefs, Offices, and Divisions, Development of a Program-Oriented Budget as a Pilot Study, June 25, 1963, p. 1.

the system, and a future addition that is anticipated for the system. An examination of each of these factors may aid in understanding the difficulties that arise when allocating all Coast Guard costs, and specifically, Coast Guard capital costs.

An early problem in developing a Coast Guard Planning-Programming-Budgeting System was defining the system. Descriptions of the Planning-Programming-Budgeting System continue to vary widely; it is many things to many people. To Senator Henry M. Jackson, Chairman of the Senate Subcommittee on National Security and International Operations, it is an oversold system and one that "may be used as easily to rationalize a decision as to make a rational decision."[1] To Aaron Wildavsky Planning-Programming-Budgeting is a system that requires all or nothing decisions regarding policies rather than incremental decisions regarding dollars.[2] He states that conflicts developed on policy matters will reduce the bargaining that is necessary to our form of government. He also considers the system to be a decision structure established by "economizers" in the realm of politics.[3]

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[1] U.S. Congress, Senate, Hearings, Planning-Programming-Budgeting, 90th Cong., 1st Sess., August 23, 1967, Part 1, p. 1 (Washington: U.S. Government Printing Office, 1967).

[2] Aaron Wildavsky, Politics of the Budgetary Process (Boston and Toronto: Little Brown and Co., 1964), pp. 138-142.

[3] "The Political Economy of Efficiency: Cost Benefit Analysis, Systems Analysis, and Program Budgeting," Public Administration Review, December 1966.

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To Charles L. Shultze, Director of the Bureau of the Budget, the Planning-Programming-Budgeting System is a "step in the continuing endeavor to make the budgetary process a more versatile and helpful instrument of the President . . . an effort to tie forward planning to budgeting."[1]

To Arthur Smithies, it is the focus of the process of comparison and coordination for making rational choices of actions among alternative courses of action available to the government.[2]

To Charles J. Hitch, it is a system which "brings together at one place and one time all of the relevant information . . . needed to make sound decisions on the forward program and to control the execution of that program."[3]

The list of "The Planning-Programming-Budgeting system is" could be carried on at great length. It is, however, generally conceded that the underlying concept is the concept of economics. The general definition of economics presently in vogue is:

> Economics is the study of how . . . men choose to employ scarce productive resources, which have alternative uses to produce various commodities overtime and distribute them for consumption, now and in the future, among various people and

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[1] Senate, Subcommittee on National and International Operations, _op. cit_., p. 11.

[2] "Conceptual Framework for the Program Budget," _Program Budgeting . . . Program Analysis and the Federal Budget_, David Novick, editor (Washington: U.S. Government Printing Office), p. 4.

[3] Charles J. Hitch, _Decision-Making for Defense_ (Berkeley and Los Angeles: University of California Press, 1967), p. 39.

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groups in society.[1]

The need for the Planning-Programming-Budgeting System given by Charles L. Shultze closely follows the cited definition of economics. "First, the resources of the government are always less than we need to accomplish all the good and useful things that we would like to do. Therefore, among competing claims on resources we must choose . . ."[2] Charles Hitch, one of the principal architects of the Department of Defense's Planning-Programming-Budgeting System stated, "The problem of national security might in theory be regarded as one big economic problem."[3] The Planning-Programming-Budgeting System was developed to bring the theories of economics into play when making decisions regarding the allocation of government resources.

There is a fourth segment of the system that is implied by literature but not formalized by inclusion in the acronym. That segment is an accounting or information system that provides the financial reports and cost data of budget execution to support Planning-Programming-Budgeting System and to provide agency managers, as well as Departmental managers, with

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[1] Paul A. Samuelson, Economics (7th ed.; New York and others: McGraw-Hill Book Company, 1967), p. 5.

[2] Senate Subcommittee on National and International Operations, op. cit., p. 19.

[3] Charles J. Hitch and Roland N. McKean, The Economics of National Defense in the Nuclear Age (New York: Atheneum, 1965), p. 3.

responsibility-centered, cost-based budgets and financial reports. The Department of Defense has begun to implement the fourth segment, known as Resource Management System, or Prime, at various test sites. When implemented, a closed loop system of Planning-Programming-Budgeting-Accounting will exist. Theoretically, a change in one of the parts will be translated and reflected in the other three parts.

In many areas, Planning-Programming-Budgeting, cost effectiveness, and systems analysis are considered to be synonymous. It is probably correct to say the Planning-Programming-Budgeting is "a bag of premises, concepts and relationships; whereas systems analysis may be captioned as a bag of techniques attached to a way of approaching problems."[1] Cost-effectiveness in turn is a tool of systems analysis; a tool used to measure the quantifiable costs and effectiveness of alternatives identified by systems analysis.

Systems analysis and cost-effectiveness have grown in emphasis since the inception of Planning-Programming-Budgeting. It is systems analysis and cost effectiveness which have given Planning-Programming-Budgeting its conceptual foundation in economics.

Systems analysis attempts to identify the alternatives available to the decision-maker and to outline the trade-offs

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[1] Samuel M. Greenhouse, "The Planning-Programming-Budgeting System: Rationale, Language and Idea Relationships," Public Administration Review, December 1966, Vol. XXVI, No. 4, p. 276.

and interdependencies of those alternatives. Systems analysis relies heavily on mathematical model building and other techniques of operations research. It deals with the problems of what the objectives should be as well as the alternatives to reach the objectives. Cost-effectiveness, in turn, is concerned with marginal costs and marginal benefits as well as total costs and total benefits of the alternatives and objectives.

Coast Guard Program-Budgeting

The above discussion of the Planning-Programming-Budgeting System may aid in understanding the nature of the goal toward which the Coast Guard was striving when it developed its Planning-Programming-Budgeting System for fiscal year 1968. The Coast Guard's fiscal year 1968 programming, budgeting, cost gathering, and allocation processes were tied to operating statistics and accounting data accumulated in prior years. The procedure used for 1968 will be examined to show the problems that must be faced to permit cost of capital outlays to be allocated. The somewhat mechanical considerations that must be accommodated are meaningful since the system is expected to work in practice, not only in theory.

As a second step in the cycle of Planning-Programming-Budgeting, the long-range plans and objectives of the Service were reduced to two program memoranda, a five year program structure not unlike the Defense Department's Five Year Defense Plan. The program memoranda outlined Coast Guard planning for

the five year period, the budget year plus four years.

The Coast Guard's programs were program elements of two Treasury Department programs, Assistance to Maritime Commerce and Military Support for National Defense. These two Treasury Department programs fell entirely within the cognizance of the Coast Guard and received no input from other Treasury agencies.[1]

Justification for each Department program was presented in the Program Memoranda. Justification included an analysis of differences between the proposed budget year funding and budget year minus one; the emphasis, assumptions and relevant factors used, and statutory authority; and special studies being conducted that could affect program levels.

More detailed justification was presented for each Coast Guard program. Included were program objectives, assumptions, long-term cost/effectiveness analysis, description of facilities and costing of facilities used, alternatives, special studies, program financial plans, and workload data.

All but one of the programs were established in support of one or more of the mission areas described in Coast Guard Missions. The Capital Outlays program is the exception. Its objective was to provide the facilities that will enable the Coast Guard to meet the objectives of all the other programs.

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[1] U.S., Treasury Department, Coast Guard, Recommended Program for Assistance to Maritime Commerce, FY 1968-FY 1972 and Recommended Program for Military Support for National Defense FY 1968 to FY 1972, Secretary of the Treasury letter to Bureau of the Budget, n.d.

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Program Memoranda, Program Financial Plan, and the Facility Utilization Appendix, were the mechanical links which tied plans to the budget. In addition, the program memoranda served to bring together the data used when making decisions between various programs and program elements.

The process of evolution of the program memorandum and financial plan began with the accumulation of the most recent actual data available. That data was assembled about 1 October for the fiscal year that ended the preceding 1 July and was referred to as prior year data. To the prior year data was added the results of completed studies where there was financial impact.[1]

The prior year data and estimates of the current year expenses and future year expenses were projected to the current year plus six. Also developed were the Facility Utilization Appendices. The Facility Utilization Appendices listed the facilities and workload distribution to be used in accomplishing the objectives of each program. Because of the multifunctional nature of most Coast Guard facilities, there were portions of a particular resource, such as vessels, shown in the Facility Utilization Appendices supporting several programs.

The Facility Utilization Appendix was used to allocate the operating costs of facilities, including military pay, to programs. There was a crucial difference between the allocation

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[1] U.S. Treasury Department, Coast Guard, Headquarters' Instruction 5010.1, pp. 2, 3.

of operating costs and the proposed allocation of capital outlay costs. The operating costs allocated were the operating costs of all facilities within a given category, such as "patrol vessels." The capital outlays costs proposed to be allocated would have been the construction costs of a particular vessel, to be located in a particular place.

The Program Memoranda, the Facility Utilization Appendices and Program Financial Plan, were presented to the Commandant of the Coast Guard, who, with the assistance of his staff, made the decisions that established the program budget levels that would be sought by the Coast Guard. The Commandant announced his decisions concerning program levels in early March, 1966.

The decisions were furnished to the program managers who revised their documents to incorporate the Commandant's program decisions. The program managers then resubmitted the Program Memoranda, Program Financial Plan, and Facility Utilization Appendices to the Commandant.

The process had at that point reached the Forecast Stage of the Budget. The forecast stage budget was reviewed and adjusted at the departmental level. Departmental decisions were referred back to the Coast Guard program managers, who revised the program documents to meet the departmental constraints.

A new budget document, the Bureau of the Budget Stage Budget, was then prepared and submitted to the Department for review and for transmittal to the Bureau of the Budget. The

Bureau of the Budget reviewed the Coast Guard's budget and recommended various changes and ceilings. The Bureau of the Budget Stage Budget was amended by the Coast Guard to reflect the constraints imposed. The revisions made required rework of some supporting documents and new decisions by the Commandant. The revisions were made to the Bureau of the Budget Stage Budget and a third budget prepared. The third budget, the Congressional Stage Budget, was the budget that was submitted to Congress with Departmental and Presidential approval.

During the development of the budget through the three stages the program documents were refined and the data supporting each program element were reviewed and analyzed.

The Forecast Stage Budget was a rough cut, need-first budget, but it recognized ceilings imposed by the Department. Although it contained concise descriptions, justifications, and cost estimates for each program, it was not complete nor structured to meet the requirements of the Bureau of the Budget.

The Bureau of the Budget Stage Budget was a cost-based budget and followed the detail and format required by the Bureau of the Budget. In addition to the change to a cost-based budget, the Bureau of the Budget Stage Budget also incorporated supporting plans not found in the forecast stage. Added were the Military Personnel Billet Plan and the Military Grade Distribution Plan.

Bureau of the Budget Stage Budget estimates were made for each of three Coast Guard appropriations; Operating Expenses,

Acquisition, Construction and Improvements, and Retired Pay.[1] Data was also furnished for revolving funds and gift funds, but that data will be disregarded in this study. Also to be disregarded in the following discussion is the Retired Pay appropriation which is considered to be beyond the purview of Coast Guard control.

Tables 3 and 4 show the format of the Program Financial Plan in the Bureau of the Budget Stage. There was a multitude of detailed documentation supporting the information presented.

The Congressional Stage Budget differed little in format to the Bureau of the Budget Stage. It did, of course, reflect the changes in amounts that were necessary due to Bureau of the Budget action.

The notable difference between the Operating Expense and Acquisition, Construction and Improvement formats were the activities listed in the first column of each. The Operating Expense data was presented in terms of activities, such as Search and Rescue and Aids to Navigation, which closely parallel the programs of the Coast Guard. The Acquisition, Construction and Improvement data, on the other hand, are oriented towards the five categories of facilities listed in the table.[2]

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[1] Included within the Operating Expense appropriation request was the request for Reserve Training funds. Reserve Training had been a fourth Coast Guard appropriation in prior years. Congress did not permit the consolidation, and funds were appropriated in 1968 for Reserve Training separately from Operating Expense.

[2] The Acquisition, Construction and Improvement appropriation was the budget equivalent of the Capital Outlays program. The other programs were included in the Operating Expense program.

TABLE 3

TREASURY DEPARTMENT

Digest of Budget Estimates by Activities for Fiscal Year 1968
(dollars in thousands)

Appropriation: Operating Expenses
Coast Guard

	Appropriation 1966		Appropriation 1967		Appropriation 1968		Increase or decrease (-) for 1968					
							Total Changes		Program Changes		Other Changes	
	Av. Pos.	Amt.	Av. Pos.	Amt.	Av. Pos.	Amt.	Av. Pos.	Amt.	Av. Pos.	Amt.	Av. Pos.	Amt.
1. Search and rescue.		$		$		$		$		$		$
2. Aids to navigation												
3. Merchant marine safety............												
4. Marine law enforcement......												
5. Oceanography, meteorology and polar operations.......												
6. Military readiness and operation....												
7. Reserve training.												
8. General support..												
Total direct costs												
Change in selected resources, net of unfunded adjustments	...		...		...		...		...		...	
Unobligated balance..	...		...		...		...		...		...	
Total adjusted appropriation or estimate............												

TABLE 3 (Continued)

	Appropriation 1966 Av. Pos.	Appropriation 1966 Amt.	Appropriation 1967 Av. Pos.	Appropriation 1967 Amt.	Appropriation 1968 Av. Pos.	Appropriation 1968 Amt.	Increase or decrease (-) for 1968: Total Changes Av. Pos.	Total Changes Amt.	Program Changes Av. Pos.	Program Changes Amt.	Other Changes Av. Pos.	Other Changes Amt.
Transferred to the Office of the Secretary.........	...			...	...	...						
Total Appropriation or Estimate.......												
Military........		...		...		...						
Civilian		...		...		...						

[a] Includes proposed supplemental for thousand for wage board pay increases, thousand for civilian pay increase costs (PL-89-504) and thousand for military pay increase costs (PL-89-501).

Summary Explanation of Changes Requested for Fiscal Year 1968

Program Changes	Activity: SAR No. 1	A/N No. 2	MMS No. 3	MLE No. 4	OMP No. 5	MRO No. 6	RT No. 7	GS No. 8	Total
Increases:									
1. Support military operations in Southeast Asia..	$	$	$	$	$	$	$	$	
2. Operate facilities required under the AC&I appropriation									
3. Provide capability to meet new or expanded responsibilities.........									
Total, Program Changes									

TABLE 4

TREASURY DEPARTMENT

Digest of Budget Estimates by Activities for Fiscal Year 1968
(dollars in thousands)

Appropriation: Acquisition,
Construction, and
Improvements
Coast Guard

		Appropriation 1966		Appropriation 1967		Appropriation 1968		Increase or decrease (-) for 1968					
								Total Changes		Program Changes		Other Changes	
		Av. Pos.	Amt.	Av. Pos.	Amt.	Av. Pos.	Amt.	Av. Pos.	Amt.	Av. Pos.	Amt.	Av. Pos.	Amt.
1. Vessels............	M		$		$		$		$		$		$
	C												
2. Aviation facilities	M												
	C												
3. Shore stations and navigational aids	M												
	C												
4. Repair and supply facilities	M												
	C												
5. Training and recruiting facil.	M												
	C												
Total Appropriation or Estimate........	M												
	C												

Note: This table reflects the amounts appropriated or the estimate for each activity of this no-year papropriation.

TABLE 4 (Continued)

Summary Explanation of Changes Requested for
Fiscal Year 1968

	Activity					
Program Changes	No. 1	No. 2	No. 3	No. 4	No. 5	Total
Increases:						
Requirements for this appropriation are determined by the cost of a selected list of specific projects described in detail in the justification. The projects are:						
A. Vessels:						
1. Implement Vessel Plan:						
a. Construct high endurance cutters to replace large cutters...........						
b. Construct medium endurance cutters to replace patrol vessels						
c. Construct one 75' tender, barge and mooring for A/N, Lower Mississippi River						

The budget format did list "Program Changes" for both appropriations. Such listing may give a false impression. The operating expense appropriation was considered to have a base, whereas the Acquisition Construction and Improvement appropriation did not have a base. "In the Operating Expense appropriation . . . Coast Guard is required to explain and justify changes in cost estimates . . ."[1] Whereas, "In the Acquisition, Construction and Improvements appropriation the entire . . . costs . . . must be explained. . . ."[2] The Coast Guard has tried to develop a base for the Acquisition, Construction and Improvement appropriation, and the format assists in this attempt. The setting of yearly averages for the completing of each facility plan and the testimony regarding percentage of completion of the plans are illustrative of this attempt. However, the attempts have not been successful. The Acquisition, Construction and Improvement appropriation has been the first to be reduced in each budget process. The other appropriations are generally assumed fixed and only minor adjustments made to the existing bases.

There is another major difference between the Acquisition, Construction and Improvement appropriation and the Operating Expense appropriation. Acquisition, Construction and Improvement appropriations are no-year appropriations, whereas Operating Expense funds are appropriated annually.

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[1] U.S., Treasury Department, Coast Guard, Coast Guard Manual of Budgetary Administration, p. 2-39.

[2] Ibid.

Cost Allocation

Cost allocations to programs were based upon prior year data.[1] The Coast Guard collected costs under six major accounting classifications: Vessels, Aircraft/Air Stations, Shore Units, Other Military Personnel Expense, Program Expense, and Capital Outlay Projects.

Costs collected for Vessels, Aircraft/Air Stations, and Shore Units were then prorated to programs. The basic procedure for proration was to determine from operating statistics the percentage of facility time, or in some cases, man days, devoted by a facility to each of the program areas. Total operating costs collected for each facility were then multiplied by that percentage, and the resulting amount charged to the program. Other Military Personnel Expense was prorated on the basis of direct military personnel costs. An amount equal to 20% of the direct military personnel cost charged to each program was added to each program. Program Expense was a direct charge to the program for which collected.

Capital outlay projects were not prorated to programs. However, the capital outlay costs were listed with programs for information purposes.

> Each Acquisition, Construction and Improvement project will usually be assigned to a single program element (. . .) but it should not be

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[1] U.S., Treasury Department, Coast Guard, Headquarter's Instruction 5010.1, Attachment H.

> added to other program costs, because the total will be a non-significant cost. Capital outlays represent an investment.[1]

The classification of capital outlays for allocation to programs is, of course, a part of the problem to which this thesis directs its primary question. The previous methods of cost allocation is mentioned here to make possible a comparison. Suitable classifications must be developed for capital outlays and a procedure developed for accounting for the expenditure of the prorated cost to each program if feedback information is to be available for audit and consideration when making future allocation decisions.

Operating Stage

In the Operating Stage, or execution phase, of the Coast Guard's budget there were changes in format and the philosophies underlying the management of funds. The amounts of money appropriated by Congress were made available to the Coast Guard in quarterly segments through the apportionment process in the Bureau of the Budget. Thus the first modification to the budget was that it was placed in a quarterly rather than an annual time frame.[2]

A second change was to the responsibility for management of the funds. Funds which had been justified by program managers and appropriated for programs were allotted to subhead

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[1] Ibid., p. 6.

[2] U.S. Treasury Department, Coast Guard, Headquarters Notice 7100, dated 1 December 1967.

and project managers.[1] Subhead and project managers carried out the execution phase of the budget. Subheads and projects were a carry-over from pre-Planning-Programming-Budgeting System procedures. The Operating Expense appropriation was divided into subheads. Subheads were input oriented and had titles such as Military Pay and Allowances and Maintenance of Vessels. Subheads were further divided into object classifications, officer pay, enlisted pay, enlisted allowances, etc. The Acquisition, Construction and Improvement appropriation was divided among various projects. One example of a project title used is, "Construct one tender, barge and moorings, lower Mississippi."

A further change in management philosophy was the elimination of the "cost based budget" management concept and replacement with an "obligation based budget" management concept. This change was meaningful in two important aspects. The program manager had been concerned with costs to be attributed to the year, the subhead and project managers were influenced by obligations. Since obligations during a given period and costs during the same period can be very different in amount, there is little reason to expect that the operating budget directed the project manager toward the goals of the program manager. The subhead or project manager was faced with two very meaningful and influential stimuli which had had less affect on the program manager. If the subhead or project

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[1] The change here is to assignment of management responsibility. Subhead breakdown did exist in Bureau of the Budget and Congressional Stages.

manager underobligated his chances for more money in the next budget would be reduced. If he overobligated he would violate the Anti-Deficiency Act.[1]

The Coast Guard's programming and budgeting process for fiscal year 1968 was described to show the Coast Guard's progress toward a Planning-Programming-Budgeting System. It was shown that the costing of programs remained a difficult process, primarily because of the multifunctional nature of Coast Guard facilities. The existence of separate budget formats and procedures for the program oriented Operating Expense appropriation and the facility oriented Acquisition Construction and Improvement Appropriation was outlined.

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[1] 31 USC 665 Section (3679): The Act provides in that "violation of the Act is punishable by removal from office, a fine of up to $5,000 and imprisonment for 2 years."

CHAPTER VI

ISSUES AND IMPLICATIONS

This chapter will strive to show how the author considers the problems of allocating the costs of capital outlays among the Coast Guard's programs are related to the development, organization, objectives and plans of the Coast Guard. Some of the problems found in the literature regarding the Planning-Programming-Budgeting System will be cited and their possible implications for the Coast Guard and its budgetary process will be discussed. Other related issues and implications which the author considers important will also be discussed.

The conceptual basis of the Planning-Programming-Budgeting System, and its attendant tool, cost effectiveness, has been shown to be economic in character. The Coast Guard's conceptual basis is oriented toward humanitarian service and the worth of individual human life. The conflict of these concepts is, on the surface, difficult to resolve since any price assigned to human life must be arbitrary. Therefore, an attempt to quantify for economic analysis the value of a life is open to question. Economic analysis of Coast Guard activities also runs into the need to assign a value to some of our freedoms. For example, the dollar cost of closing harbors and requiring all pleasure vessels to return to, or

remain in port when weather conditions indicate danger would be slight while the potential benefit would be great. However, the boat owners' loss of freedom to use their vessels where and when they desire would be considered by many to be a great price to pay. In spite of the failings, economic choice should be recognized as an approach to problem solving, and if that approach is the best available it should be used.

The Coast Guard should not lose sight of the mechanical realities of the budget process. These realities caused the Deputy Comptroller of the Navy[1] to comment that there may be a basic "disconnect" between Programming and Budgeting. The increasing number of budget changes imposed upon Federal Agencies in recent years, some of them occurring after appropriation, have increased the difficulties facing agency budget officers. The flow of budget decision information against the flow of program decision information is causing programmers and budgeteers to make adjustments in budgets and programs based upon superseded information. More significantly, budget personnel may be forced by time constraints to make program decisions without reference to program managers. In view of the mechanical difficulties it may be impossible to make the system work using present day concepts.

There are political realities that impeded the full

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[1] Rear Admiral Eli Reich in a lecture at The George Washington University to the students of the Navy Postgraduate Financial Management Program, February 1, 1968.

adoption of the economic rationality of the Planning-Programming-Budgeting System. The difficulties of subjecting all resources to rationality and the determination of rationality itself are political problems.

The first problem was well but not fully exemplified in Report on the Requirements for Coast Guard Vessels.

> . . . in evaluating the need for search and rescue coverage along the Pacific Coast from, say, Cape Blanco north to the Columbia River, it might readily be concluded that the Coast Guard would be justified in redeploying floating equipment away from this part of the coast in favor of some other region where maritime traffic is heavier and distress occurs with greater frequency. Yet it is obvious that such a move would be unacceptable. For . . . when assistance is needed along the Oregon-California Coast, it is needed badly. Local maritime interests would vigorously protest any move to reduce Coast Guard forces. . . .[1]

The comment, not fully exemplified, was used because no recognition was given to the existing Congressional interest that routinely becomes apparent whenever a federal facility is moved.

The second problem, determination of rationality itself, can also be developed by reference to the preceding quotation. Whose rationality should be used; those who would gain or those who would lose from the redeployment?

Centralization

Centralization is a problem in itself. It tends to introduce inflexibility, excessive control and neglect of uncertainties in favor of detailed planning for specifics

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[1] Ibid., p. 2.

coupled with failure to plan for contingencies. If control is centralized at a high level, only those plans which are safe, that is, those which will not displease superiors, will be introduced.[1]

The flexibility of the Coast Guard personnel and facilities has permitted the Service to adapt to changing national interests and situations. Loss of flexibility in the use of Coast Guard facilities will arise from Congressional, as well as internal, interests. Justification of capital outlays based upon allocation of costs to programs will require Congress to reveal, in specific terms, its intent for the use of the facilities acquired. The intent of Congress will place constraints upon the use of those facilities.

In addition to the amount of centralization of decision making, there is a further problem of who will do the decision making. The structuring of each systems analysis, information system, cost effectiveness study and program structure itself will be replete with assumptions, assumptions which will influence the decision-maker. The number of assumptions will be too large to document and therefore some will not be displayed for the manager. Wildavsky points out with emphasis the control that gravitates to staff personnel in the following quotation of Charles Hitch: "Program decisions . . . are decisions of the sort which can only be made by the

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[1] Roland N. McKean and Melvin Anshen, "Problems, Limitations and Risks," Program Budgeting, ed. David Novick (Washington: Government Printing Office, n.d.), p. 233.

Secretary and, therefore, the role of the Secretary and of the Secretary's advisors will be greater." (Emphasis supplied by Wildavsky).[1]

As Senator Jackson said, "PPB can be used to rationalize a decision as well as to make a rational decision."[2] The Coast Guard must decide how much latitude will be given to the analysts or other staff personnel in the event of further centralization. The top management of each staff and line unit must understand the limitations as well as the implications of each of the analytical tools that will be used.

Inability to direct attention to all-important trade-offs[3]

The present program of Capital Outlays makes clearly visible those expenditures which are investments. The allocation of resources to current expense or investment is an important decision that should be consciously made in our society. To make this decision less visible will tend to give it less consideration and is a stimulus to managers to consider long-run benefits of capital outlays too lightly.

Because Coast Guard facilities are multipurpose, the

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[1] The Politics of the Budgetary Process, p. 140.

[2] Supra, p.

[3] Roland N. McKean, "Remaining Difficulties in Program Budgeting," ed. Stephen Enke, Defense Management (Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1967), p. 65.

assignment of capital outlay costs to programs must be arbitrary. Coupled with the arbitrary cost allocation to the several programs is a further series of arbitrary decisions, those decisions which establish a depreciation expense to each year of a facility's life. If depreciation accounting is not done it will be necessary to charge the full cost of a facility to a group of programs during the year of construction. The overstatement of a program cost resulting from such action will not facilitate sound decision making.

The need for continued visibility by separation of capital outlays should be kept in mind. Although the total cost of decisions should be available, this total "_is composed of two quite separate pieces which are managed differently and which, therefore, should be examined differently. The pieces are (1) capital costs and (2) operating costs._"[1]

Differences between the decision making process for capital outlays and the decision making process for operating expenses were shown in the discussion of the Coast Guard's budgetary process.[2] Another difference is the variation in accuracy that can be expected when estimating the future

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[1] U.S., Department of Defense, _A Primer on Project Prime_ (Washington: April 1967), p. 27.

[2] A difference not mentioned in the discussion of the budgetary process but worthy of consideration is that the Coast Guard's Acquisition, Construction and Improvement Appropriation for capital outlays must be justified before the Authorization Subcommittees of the House of Representatives and the Senate. The appropriation for Operating Expense need be justified only before the Appropriations Subcommittees.

utilization of several existing facilities and when estimating the utilization of still to be acquired facilities. For example, the forecast of the average utilization of all existing patrol vessels for one year in order to allocate, in the budget, the operating expenses of those vessels might be sufficiently accurate for decision making. The allocation of capital outlay costs in the budget process would require the forecast of the use of a particular vessel or group of vessels for several years in the future. The validity of a decision made on the forecast would be open to question. An extreme example of this potential problem can be seen in the case of seventeen patrol boats, the primary purpose of which was scheduled to be search and rescue. They were sent to Viet Nam shortly after construction. An allocation in the budget process of the major portion of the cost of the capital outlays for those vessels would logically have been assigned to the Search and Rescue program under the Planning-Programming-Budgeting System. It can be seen from hindsight that such an allocation would have been erroneous, since the Search and Rescue program received little benefit from the patrol boats.

Secondly, the decision to build or not build a vessel or other facility is often a one-time, all or nothing decision; it is not generally useful to build less than a whole facility. It is, however, possible to devote any increment of operating cost to a particular program and, more importantly, to change the percentage of allocation from year to year. The decisions made regarding capital outlays do not appear to lend themselves

as readily to such changes.

Separation of capital outlay costs and operating expenses is important for another reason. Existing facilities are over age, obsolete, and approaching a condition which will make them dangerous to operate. The need for modernization has been documented. A question asked by Senator Edward Kennedy in regard to the Coast Guard's transfer to the Department of Transportation can also be asked when considering the assignment of facility construction cost to programs. He asked, "In view of the Coast Guard's current modernization programs, will the rate of modernization and equipment replacement be impeded by being transferred to a Department of Transportation?"[1] In that question we can substitute allocation of capital outlay costs and have the question: In view of the Coast Guard's current modernization programs, will the rate of modernization and equipment replacement be impeded by allocation of capital outlay costs to programs? This query must be answered by the Coast Guard. If the answer is yes, the cost of such an impediment must be considered.

Underinvestment in facilities

The program manager will find the immediate costs of operating expense, i.e., maintenance and personnel costs, proportionately less than the cost of capital outlays. Too, funds for operating expense will be easier to justify since

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[1] Senate Committee on Government Operations, op. cit., p. 264.

a base does exist. The program manager will therefore attempt to avoid requests for large increases needed for capital outlays. The foregone capital outlays may, in the long run, be more costly.

Possible confusion

There is great importance in the budget of a base, an amount which does not require copious justification. The absence of a base not only makes the calculation of what a program should get difficult for Congress, but also increases greatly the budgeting workload and uncertainty that confronts the agency budget personnel.[1] Programs which do have a base will therefore be hampered by adding an amount for capital outlays which does not have a base. Variation of the resulting program dollar amounts as the needs for capital outlays vary will distort, and may destroy, the base figure. The combination of an annual appropriation which has a base and a no-year appropriation which does not have a base will introduce an element of confusion.

Erle Cato in his article "Positive Control Over Federal Expenditures" discusses the loss of Congressional and agency management control of expenditures due to the confusion caused by consolidation of operating expenses and capital outlays in the same program.[2] He urges the segregation of military

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[1] Wildavsky, Politics of the Budgetary Process, p. 17.

[2] The Federal Accountant (Washington, D. C., Fall 1964), pp. 112-126.

costs into two categories; operating expense and non-operating expense. The non-operating expense category would include capital expenditures and costs under Cato's definition. The purpose of such segregation would be to purify operating costs and to develop improved management control and an incentive for cost reduction. The applicability of Cato's arguments to the Coast Guard's problems of allocating capital outlay costs should be considered.

Inability to direct attention to all-important interdependencies[1]

The interdependence of many programs is obvious. A reduction or increase in effort in the Merchant Marine Safety program or the Aids to Navigation program should cause an offsetting, though difficult to measure, change in the effort required in the Search and Rescue effort. Another imponderable is the measurement of Search and Rescue workload change. Determination of the workload that would exist if there were no facilities to do the work or if the Coast Guard assessed charges for towing or rescue and search effort, is difficult to ascertain.

Another subsidiary problem is the difficulty of determining how much Military Readiness contributes to all of the other programs. The speed of a ship justified for military readiness is used when performing Search and Rescue or law enforcement duties and when proceeding to Ocean Station duties.

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[1] McKean, op. cit., p. 66.

All programs benefit from the military posture of the Service not only from the lowered cost of labor and the ability to move the labor force from place to place to meet shifting needs, but also from the military posture itself. Most law enforcement agencies find a military posture necessary for efficient operation.

Difficulties in determining effectiveness

The difficulties inherent in determining the independencies and trade-offs just discussed apply to both costs and effectiveness. However, it is generally acknowledged in the literature on cost effectiveness that costs are easier to measure than effectiveness.[1] For the Coast Guard the measurement of effectiveness is particularly difficult. A relatively simple activity, the International Ice Patrol, can be used to demonstrate the difficulty. As shown in the history there have been no ships sunk in the patrol area while the patrol was operating. It would not be correct to say that the patrol has prevented, in each year of operation, the sinking of a TITANIC or even the sinking of a number of ships equal to the average for pre-patrol years. Shipping tonnage has increased during the intervening years. On the other side of the scale radar has been developed and ship to ship communications have been improved. What then is the effectiveness of the ice patrol in quantifiable terms? How much would the

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[1] Smithies, op. cit., p. 22.

effectiveness decrease if the patrol season were reduced by one-third or if ships ceased to make the patrols? Effectiveness in many other Coast Guard activities is extremely more difficult to measure.

Also causing difficulty in measuring effectiveness is the Coast Guard's tendency to cooperate with other agencies. The allocation of the cost of capital outlays to programs of other agencies and to emerging and changing national interests is difficult. The costs should under the concepts of Planning-Programming-Budgeting, be balanced against benefits. There is a synergistic quality associated with multifunctional facilities; the cost of total benefits are less than the sum of the costs of individual benefits. The determination of the costs to be allocated is difficult. If a Coast Guard aircraft were not available to transport, for example, personnel of the Alcohol Tax Unit, the Internal Revenue Service might procure the transportation in either of two ways; purchase and operate its own aircraft or charter aircraft as needed. Should the Coast Guard then assign the cost of an Internal Revenue aircraft as an offset against its own aircraft procurement cost, or should the offset be the cost of an Internal Revenue Service plane plus training of a crew, or should the offset be the charter cost of an aircraft for the forecasted hours to be flown with Internal Revenue Service personnel aboard?

The benefits of cooperating with other agencies are sometimes unexpected. The Planning-Programming-Budgeting System will tend to stifle the Coast Guard's willingness to assist

other agencies. The programming of the construction cost of the Cutter BEAR to a particular program would have influenced the Service to not carry reindeer to Alaska in support of the activities of the Federal agent for education. Not having had the reindeer available might have caused the deaths of 273 whalers at Point Barrow. Furthermore, under the Planning-Programming-Budgeting System, should not the benefiting agency reimburse the Service for the transportation? It is unlikely that the budget of the Federal agent for education had funds for transporting food to the Eskimos. The question of how much should have been charged remains academic.

Reduced flexibility

"The act of allocating the cost of facilities to programs implies some loss of flexibility."[1] Reduced flexibility was discussed in connection with the problem of centralization. Further reduction of flexibility will result from having made the allocation. Five-year program levels are approved by top management; therefore the programs reflect *decisions* made by management and are not only plans made by his staff. The five year program "is the primary system around which other planning and control devices must revolve and is the nucleus for the whole formal management process."[2] Because the five year programs are dominant, changes either from the realm

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[1] McKean, *op. cit.*, p. 71.

[2] U.S. Department of Defense, *A Primer on Project Prime*, p. 25.

of planning or budgeting must be structured in terms of inputs, outputs, and five year costs. A conscious decision to change or revise will be required. The program manager who has paid the cost of developing and constructing a large (or small) facility will strive to protect his investment. Those who have approved the construction based upon a particular program, or program array, will also strive to prevent change due to a pride of authorship.

Organization structure

The Planning-Programming-Budgeting System recognizes that "the ultimate user should have freedom to choose among alternatives and, hence, to economize. . . . Applying that principle means that funds should be allocated initially to directors of final programs."[1] Application of this principle to the Coast Guard will cause a shift in power. The power of the purse will reside in the program manager rather than in the subhead or project manager. Such a shift in power, the resistance that the shift will face, and the cost of such a shift, should be considered.

Uniqueness

The duty of rendering aid to mariners in distress particularly complicates the problem of classifying Coast Guard activities and therefore of assigning capital costs of

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[1] Smithies, *op. cit.*, p. 31.

facilities. The divergence of the concepts of military service and the concepts of humanitarian service is wide. There is no parallel for such an agency. This unique characteristic is exemplified by the following:

> It is noteworthy . . . that the United States is unique among the nations of the world in developing a military service--the Coast Guard--whose reason for being is basically humanitarian, concerning itself in peace time with services to the citizen, collectively and individually, in a broad scope of functions . . . this broad spectrum of missions has been gradually assigned to the Coast Guard, subordinated to one major theme: the importance and worth of the individual human life.[1]

Uniqueness can be a source of pride, but it may limit the applicability of any example set by another agency.

Relevant costs

"Costs shown in the budget are not necessarily relevant costs."[2] The Coast Guard's existing facilities escape any but the most arbitrary of dollar valuations. To assign dollar valuations to existing facilities and allocate depreciation expense for the existing facilities would be necessary if such allocation is made of proposed facilities and decisions are to be made upon cost.

An ever-present problem of comparing personnel costs with capital costs also arises in this category. On a broad scale of national concern is the valuation of all military

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[1] U.S. Treasury Department, Coast Guard, United States Coast Guard Objectives, p. ii.

[2] McKean, op. cit., p. 37.

personnel costs.[1] The existence of the draft permits the Coast Guard, indirectly, to acquire labor at a very low price. Is it then proper to use military pay in comparison to the cost of capital outlays when embarking upon a cost-effectiveness study?

A further inequity develops when military personnel are required to labor beyond the standard work day or while undergoing hardship. A ready example can be found in the consideration of automating an isolated station. The cost of the capital outlay can be fixed. The cost of military pay for the crew can also be fixed. However, the amount of work, the number of hours of labor, is not considered. The crew may work 30, 40, 50, 80, or 120 hours per week. The cost of labor, however, remains the same. If the Coast Guard does not develop a standard work week for cost-effectiveness studies and subsequent financial reports the possibility exists that the cost-effectiveness studies will cause the by-passing of capital investments that should be made while unknowingly spending human resources to balance the bill.

Conclusions

The Coast Guard's character and concept of operation has, throughout its history, been that of flexible service, able to meet changing national needs and interests. The allocation

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[1] Harry J. Gilman takes notice of this in "Military Manpower Utilization," Defense Management, Stephen Enke, ed. (Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1967), pp. 246-265.

of capital outlays to the Coast Guard programs could reduce the flexibility and would tend to cause a change in the organization structure. The visibility of the need for capital outlays would be lessened if the costs were allocated to programs. Because of the multifunctional nature of facilities, the validity of capital cost allocation and the cost-effectiveness analysis based upon such allocation would be open to question.

The research for this study has shown that the Coast Guard has benefited from its use of the Planning-Programming-Budgeting System. The increased emphasis at Coast Guard Headquarters on forward planning, consideration of alternative uses of resources to reach multiple objectives, and consideration of marginal costs and benefits can be included in the benefits received. Additional benefits may be obtained from judicious application of the system and its concepts to other parts of the Coast Guard organization and management. However, the Coast Guard should recognize the problems that arise when allocating the costs of capital outlays, the general problems associated with full implementation of the Planning-Programming-Budgeting System, and the affect that the solutions to those problems will have upon its character and ability to respond to future responsibilities. The problems are not unique to the Coast Guard, but the degree of difficulty may be. The problems should be considered costs against which to measure the benefits expected from the system. The incremental approach to

determining the cost-benefit ratio may indicate that less than full adoption of the Planning-Programming-Budgeting System is indicated.

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